



## Marco Aurélio de Oliveira


**DATE OF BIRTH:**  
01/06/1964


### CONTACT

Nationality: Brazilian

Gender: Male

 Rua da Índia, 25, Cidade Jardim /  
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4470-304 Porto, Portugal

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### EDUCATION AND TRAINING

**01/10/2016 - CURRENT** - Campus de Azurém, Av. da Universidade, Guimarães, Portugal

#### PhD student - International Doctoral Programme in Sustainable Built Environment (ends December 2020).

University of Minho. Guimarães, Portugal.

Building acoustics

Noise control in ventilation systems

Acoustic materials

Sound attenuators for ventilation devices

Building ventilation

Façade sound insulation

#### Field(s) of study

- Building Acoustics

Ongoing (ends in December, 2020). | Noise reduction performance of a low-energy façade integrated mechanical ventilator |

<http://civil.uminho.pt/idisbe/>

**01/03/2005 - 03/05/2007** - Av. Roraima nº 1000 Cidade Universitária Bairro - Camobi, Santa Maria, Brazil

#### Master on Civil Engineering

Santa Maria Federal University

Façade sound insulation

Double windows

Building noise control

#### Field(s) of study

- Building Acoustics

"A" Concept | Study of double windows efficiency in order to improve sound insulation in buildings

**01/01/1998 - 17/12/2003** - Av. Roraima nº 1000 Cidade Universitária Bairro - Camobi, Santa Maria, Brazil

#### Bachelor Degree in Civil Engineering

Santa Maria Federal University

### WORK EXPERIENCE

**01/04/2004 - CURRENT** - Porto, Portugal

#### Acoustics Engineer

Confortus Engenharia Acústica

Building Acoustics | Construction | [engenharia@confortus.com](mailto:engenharia@confortus.com) | [www.confortus.com](http://www.confortus.com) | 4470-304, Porto, Portugal

**01/08/2003 - 16/12/2003** - Contagem, Brazil

#### Completion internship (end of Civil Engineering course)

Isobrasil Thermal and Acoustic Isolations

Completion internship (40 hours a week).

05/07/2002 - 04/01/2003 - Santa Maria, Brazil

● **Extracurricular internship**

Santa Maria City Hall

Acoustic project of the Santa Maria Multiple Activities Center (20 hours a week).

01/03/2001 - 24/02/2002 - Santa Maria, Brazil

● **Acoustic laboratory internship**

Acoustics Laboratory of the Technology Center of the Federal University of Santa Maria

**Research project: Acoustic potential of calabashes (*lagenaria vulgaris*) as sound absorbers. (20 hours a week).**

01/04/1998 - 31/01/1999 - Santa Maria, Brazil

● **Acoustic laboratory internship**

Acoustics Laboratory of the Technology Center of the Federal University of Santa Maria

Research project: The use of electroacoustic sound systems in rooms (20 hours a week).

01/10/1996 - 30/04/1997 - Santa Maria, Brazil

● **Acoustic laboratory internship**

Acoustics Laboratory of the Technology Center of the Federal University of Santa Maria

**Research project: The use of acoustics in civil construction: acoustic treatment of concert halls at the UFSM Arts Center. (20 hours a week).**

01/04/1995 - 30/08/1995 - Santa Maria, Brazil

● **Acoustic laboratory internship**

Acoustics Laboratory of the Technology Center of the Federal University of Santa Maria

Research project: Architectural acoustics of concert halls in the city of Santa Maria. (20 hours a week).

## EXPERIENCE

**12/04/2004 - CURRENT**

### **Acoustics Engineer**

- Evaluation and control of sound transmission in buildings.
- Experimental design and analysis including data collection and analysis, overseeing data production, and ensuring data quality.
- Measurement systems and analysis techniques to characterize sound fields and sound transmission.
- Prediction or rating of physical or subjective response to sound.
- Identification of research requirements, proposal writing, project management, and reporting through written documentation, presentations and publishing.
- Business development, marketing activities, and/or the development of partnerships.
- Experience working with standards, specifications, or building codes dealing with acoustical performance of buildings.
- Experience measuring or predicting flanking sound transmission using standardized approaches such as ISO 10848 and ISO 12354.
- Experience with the interrelation of acoustical performance of buildings with multidisciplinary performance aspects such as fire, thermal, ventilation.

## PROFESSIONAL MEMBERSHIPS

**01/01/2004 - CURRENT**

### **Brazilian Association of Engineers**

<http://www.creadf.org.br/>

**01/05/2018 - CURRENT**

### **Institute of Acoustics (student member)**

<https://www.ioa.org.uk/jobs-acoustics>

**01/06/2008 - CURRENT**

### **Brazilian Acoustic Society - SOBRAC (Certified member F1)**

<https://pt-br.facebook.com/sociedadebrasileiradeacustica/>

**15/07/2019 - CURRENT**

### **Senior Engineer - Portuguese Association of Engineers**

<https://www.ordemengenheiros.pt/pt/>

**10/01/2017 - CURRENT**

### **Portuguese Acoustic Society**

<http://www.spacustica.pt/>

## LECTURES DELIVERED

**19/05/1996 - 19/05/1996**

● **Recording studio: a tool for research and musical improvement**

Coordination of the Music Course at the UFSM Arts Center. Santa Maria, Brazil.

<https://www.ufsm.br/unidades-universitarias/cal/>

**09/12/1998 - 09/12/1998**

● **Acoustic room treatment**

Academic week of the physics course at the Federal University of Santa Maria.

<https://www.ufsm.br/cursos/graduacao/santa-maria/fisica/>

**17/06/2002 - 17/06/2002**

● **Raynoise software**

IV Environmental Comfort Seminar of UNICRUZ University. Santa Cruz, Brazil.

<https://home.unicruz.edu.br/>

**23/05/2003 - 23/05/2003**

● **Sound insulation of PVC windows**

SINDUSCON. Santa Maria, Brazil.

<https://www.sinduscon-sm.com.br/>

**24/07/2004 - 24/07/2004**

● **The existing interface between room acoustics and speech therapy**

Speech therapy course at the Federal University of Santa Maria. Santa Maria, Brazil.

<https://www.ufsm.br/cursos/graduacao/santa-maria/fonoaudiologia/>

**25/06/2005 - 25/06/2005**

● **Thermo-acoustic insulation**

Reflexo Glasswork

<https://www.guiamais.com.br/santa-maria-rs/servicos-especializados-para-construcao-e-reformas/vidracarias/2068378404-6848209/vidracaria-reflexo>

**03/05/2016 - 03/05/2016**

● **Acoustic projects: practical examples**

Coordination of the Acoustic Engineering Course at the Federal University of Santa Maria. Santa Maria, Brazil.

<https://www.eac.ufsm.br/home>

## ARTICLES PUBLISHED IN CONFERENCES

**09/07/1996 - 13/07/1996**

● **Architectural acoustics of concert halls in the city of Santa Maria.**

VIII Scientific Initiation Symposium of UFRGS, Porto Alegre, Brazil.

**08/10/1996 - 09/10/1996**

● **The use of acoustics in civil construction: acoustic treatment of concert halls at the UFSM Arts Center.**

VI Academic week of the Technology Center of Santa Maria Federal University. Santa Maria, Brazil.

**08/10/1997 - 09/10/1997**

● **Functional and aesthetic elements in the acoustic treatment of rooms.**

IV Academic week of Santa Maria Federal University. Santa Maria, Brazil.

**05/04/1998 - 08/04/1998**

● **Functional and aesthetic elements in the acoustic treatment of rooms.**

I Congress of Iberoamerican Federation of Acoustics.

**11/03/2002 - 15/03/2002**

● **Acoustic potential of calabashes (*lagenaria vulgaris*) as sound absorbers.**

XIII Scientific Initiation Symposium of UFRGS, Porto Alegre, Brazil.

**26/03/2002 - 28/03/2002**

● **Acoustic potential of calabashes (*lagenaria vulgaris*) as sound absorbers.**

XVI Academic week of Santa Maria Federal University. Santa Maria, Brazil.

**21/10/2002 - 24/10/2002**

● **Acoustic potential of calabashes (*lagenaria vulgaris*) as sound absorbers.**

XX Congress of the Brazilian Acoustic Society -SOBRAC.

[www.acustica.org.br](http://www.acustica.org.br)

**07/08/2005 - 10/08/2005**

● **Acoustic potential of calabash residue as sound absorption alternative material.**

34 th INTERNOISE. Rio de Janeiro, Brazil.

**07/09/2016 - 09/09/2016**

● **Study of the efficiency of double windows for improvement of the sound insulation of buildings.**

Sustainable Urban Communities towards a Nearly Zero Impact Built Environment - SBE 16. Vitória, Brazil.

[http://civil.uminho.pt/sbe16\\_Brazil\\_Portugal/](http://civil.uminho.pt/sbe16_Brazil_Portugal/)

**07/09/2016 - 09/09/2016**

● **The use of calabashes as sound absorption alternative material.**

Sustainable Urban Communities towards a Nearly Zero Impact Built Environment - SBE 16. Vitória, Brazil.

[http://civil.uminho.pt/sbe16\\_Brazil\\_Portugal/](http://civil.uminho.pt/sbe16_Brazil_Portugal/)

**03/02/2017 - 03/02/2017**

● **Auditorium acoustic quality.**

I Symposium on Acoustics and Vibrations.

Itecons - Institute for Research and Technological Development for Construction, Energy, Environment and Sustainability. Coimbra, Portugal.

<https://www.acustica2017.uc.pt/index.php?module=sec&id=502&f=1>

**24/05/2019 - 24/05/2019**

● **Decentralized mechanical ventilation system for façades: compatibilization of acoustic and ventilation performance**

II Symposium on Acoustics and Vibrations. Itecons

Institute for Research and Technological Development for Construction, Energy, Environment and Sustainability. Coimbra, Portugal.

## ARTICLES PUBLISHED IN SCIENTIFIC JOURNALS

**13/10/2020 - CURRENT**

● **Noise reduction performance of a low energy façade-integrated mechanical ventilator (Building Acoustics Journal)**

Acoustic comfort and indoor air quality are essential for the health and wellbeing of the occupants of the building. Thus, the façade must guarantee enough sound insulation and ventilation conditions. However, these aspects conflict because opening windows or using ventilation openings reduces the sound insulation of the envelope and allows the exterior noise entrance. To limit noise transmission into the building, ventilators use passive, active or hybrid noise control techniques. This work addresses the noise reduction performance of a mechanical ventilator for façades, evaluating the effect of different options of passive noise control strategies in the sound insulation of the proposed ventilator. In addition, the air change rate and energy consumption of the ventilator were also investigated. Three prototypes were fabricated and tested at an acoustic chamber, along with ventilation tests carried out in a room equipped with a blower door. CFD simulations were used to enhance the aerodynamic geometry of the prototypes, prior to its fabrication. The acoustic experiments showed  $D_{n,e,w}$  values up to 55 dB and noise emission levels lower than 25 dB(A). The use of resistive sound absorbers proved to be more effective in mitigating noise than reactive absorbers, over the entire frequency range. The ventilation tests revealed air change rates of  $3.7 \text{ h}^{-1}$  at 50 Pa, while the ventilator's annual energy consumption was 17.52 kWh. The results highlight the proposed device as a viable alternative for decentralised mechanical ventilation, capable of ensuring noise protection and satisfactory ventilation rates, under a sustainable perspective of minimum energy demand.

<https://journals.sagepub.com/home/bua>

## ATTENDED COURSES, WORKSHOPS AND LECTURES

**11/07/1996 - 26/07/1996**

● **Economic aspects of acoustic comfort (course).**

Acoustic Laboratory of the Technology Center of the Federal University of Santa Maria. Santa Maria, Brazil.

<https://www.ufsm.br/cursos/pos-graduacao/santa-maria/pgmec/laboratorio-de-vibracoes-e-acustica/>

**24/07/1996 - 24/07/1996**

● **Ambient sound systems (Lecture).**

Technology Center of the Federal University of Santa Maria.

<https://www.ufsm.br/unidades-universitarias/ct/>

**04/11/1996 - 08/11/1996**

● **Car sound systems (course).**

SENAI. Santa Maria, Brazil.

**22/07/1997 - 26/07/1997**

● **Architectural acoustics (course).**

Technology Center of the Federal University of Santa Maria. Santa Maria, Brazil.

**03/11/1997 - 06/11/1997**

● **Environmental comfort applied to civil construction (course).**

Technology Center of the Federal University of Santa Maria. Santa Maria, Brazil.

**27/11/1999 - 27/11/1999**

● **Management Systems (lecture)**

Technology Center of the Federal University of Santa Maria. Santa Maria, Brazil.

**29/07/2000 - 30/07/2000**

● **Structural masonry, rationalized construction system, a global view of the system (lecture)**

SINDUSCON. Santa Maria, Brazil.

**23/05/2001 - 23/05/2001**

● **Ceramic Plates Seminar - Floor and Wall (lecture)**

Technology Center of the Federal University of Santa Maria. Santa Maria, Brazil.

● **Bellevue Company (training)**

Blumenau, Brazil.

<http://www.bellevue.com.br/>

**05/06/2004 - 05/06/2004**

● **Creativity: a business solution (lecture)**

SEBRAE. Porto Alegre, Brazil.

**06/06/2004 - 06/06/2004**

● **Customer Service (lecture)**

SEBRAE. Porto Alegre, Brazil.

**14/04/2008 - 14/04/2008**

● **Sales techniques (lecture)**

SEBRAE. Brasília, Brazil.

**26/11/2008 - 26/11/2008**

- **Acoustic Performance of buildings: methods, criteria and standards (course)**

XXII Congress of the Brazilian Acoustic Society - SOBRAC. Belo Horizonte. Brazil.

**29/05/2012 - 01/06/2012**

- **Building acoustics (workshop)**

XXIV Congress of the Brazilian Acoustic Society - SOBRAC. Salvador. Brazil.

**01/07/2015 - 01/07/2015**

- **Advanced Workshop - Predictor LimA Bruel & Kjaer**

Bruel & Kjaer. Campinas, Brazil.

**08/07/2016 - 08/07/2016**

- **SBTool - Building Sustainability assesment method (lecture)**

Sustainable Urban Communities towards a Nearly Zero Impact Built Environment - SBE 16. Vitória, Brazil.

**12/02/2018 - 12/02/2018**

- **Resonate Lisbon Thinking Sound & Space (lecture)**

A one-day conference organized by MAAT and reSITE aimed at an exclusive architecture, tech and art audience, focusing on architectural soundscapes, the technological innovation of sound environments, and the creation of groundbreaking acoustic experiences.

<https://www.resite.org/events/resonate-lisbon>

**07/05/2012 - 10/05/2012**

- **10th Congress of the Audio Engineering Society in Brazil (lectures)**

Expocenter. São Paulo, Brazil.

[http://www.aesbrasil.org.br/wp-content/uploads/2018/anais/Anais\\_AESBR2012.pdf](http://www.aesbrasil.org.br/wp-content/uploads/2018/anais/Anais_AESBR2012.pdf)

**27/10/1997 - 27/10/1997**

- **Traffic noise and noise pollution in urban canyons (lecture).**

VII Academic week of the technology center of the Federal University of Santa Maria. Santa Maria, Brazil.

## HONOURS AND AWARDS

**06/10/2017**

- **Born From Knowledge Ideas (Top ten finalists)** - Portuguese National Agency for Innovation

<https://www.ani.pt/en>

**20/01/2004**

- **Outstanding Student Award** - Santa Maria Federal University (during the graduation ceremony).

## DIGITAL SKILLS

Social Media | Google Drive | Zoom | Microsoft Powerpoint | High ability to use AutoCAD | EASE 44 | PHOENICS | Google Sketch-Up PRO | Google Docs | Skype | Microsoft Office Word Excel Access Power Point Outlook



## HOBBIES AND LEISURE ACTIVITIES

- **Cycling with my son**
- **Play classical guitar**

## LANGUAGE SKILLS

**MOTHER TONGUE(S):** Portuguese

### English

Listening  
**C1**

Reading  
**C2**

Spoken  
production  
**C1**

Spoken  
interaction  
**C1**

Writing  
**C1**

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### Spanish

Listening  
**B2**

Reading  
**B2**

Spoken  
production  
**A2**

Spoken  
interaction  
**A2**

Writing  
**A1**

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## DRIVING LICENCE

- Driving Licence: **A1** / Driving Licence: **A2** / Driving Licence: **A** / Driving Licence: **B1** / Driving Licence: **B**