



# Cacavelos, Federico Nahuel

Acoustic and sound engineer

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Single, 27 years old, Argentinian.

Free-Software Download: [Mathworks](#) ; [SourceForge](#)

Download of Research Papers: [Scribd](#)

## Personal Attributes

- **Proactive:** Management of cultural events with an own company for 4 years.
- **Leadership:** Coordination of working group on an acoustic project (15 personnel in charge)
- **Plasticity:** Student exchange scholarship
- **Inovation:** Multiple experiences in research projects.
- **Dynamism:** Several years of work in shows and events.

## Professional Attributes

- **Biomedical Technology, orientation in hearing health.**
- **Programming and data processing software**
- **Acoustics**
- **Beamforming and source localization, intensity measurement systems**
- **Electronics**
- **Robotics**
- **Sound amplification equipment**

## General Skills

**Audio edition:** Cubase, Protools, Albeton Live, Audition.

**Electronics:** Multisim:

**Modeling:** EASE, COMSOL Multiphysics, Autocad, CadnaA, SoundPlan, ArGIS

**Analysis:** Dirac, SIA Smaart, Arta, REW, Prologue.

**User:** Windows, Mac OS, Office.

## Programming Skills

**Matlab:** 1 course, 7 projects.

★★★★★★★★★

**Python:** 3 courses, 1 project in progress (thesis).

★★★★★★★★★

**C++:** 1 university course.

★★★★★★★★★

**Visual Basic:** Autodidact.

★★★★★★★★★

**Arduino:** 1 course, 1 project.

★★★★★★★★★

**Simulink:** Autodidact.

★★★★★★★★★

**Procesing:** 2 course, 1 project

★★★★★★★★★

**PureData** (graphic programming): 1 course, 4 projects.

★★★★★★★★★

## Graphics Editing Skills

**Photoshop**

★★★★★★★★★

**Illustrator**

★★★★★★★★★

## Languages

**ENGLISH:** School 5 years, private institute 3 years

★★★★★★★★★

**FRENCH:** School 5 years

★★★★★★★★★

## Education

UNIVERSIDAD DE SAN BUENAVENTURA MEDELLIN	2016
<b>Sound engineer (COLOMBIA)</b>	
Scholarship student exchange: Courses: Programming tools (C++, Processing) and Sound Synthesis (PureData) and Environmental Acoustics (SoundPlan, ArcGIS).	
UNIVERSIDAD NACIONAL DE TRES DE FEBRERO	2008-2015
<b>Sound engineer (ARGENTINA)</b>	
Approved classes (43/44). Working in graduate thesis.	
UNIVERSIDAD BUENOS AIRES	2007-2008
<b>Physics degree (ARGENTINA)</b>	
Deserted career, 1 year completed	
SUPERIOR SCHOOL SPECIALIZED IN LANGUAGE, ROQUE SÁENZ PEÑA	2001-2006
<b>Physics-Mathematics orientation (ARGENTINA)</b>	

## External Courses

- **Fundamentals of Computing**, Program of the Rice University (Huston, EEUU).  
3 certificate courses:
  - Interactive Programming in Python (Part 1).
  - Interactive Programming in Python (Part 2).
  - Principles of Computing .
- **Auditory Physiology**, Dr. Santos Tieso (2010 - 2011): study and analysis of the physiology of the inner and middle ear from a mechanical-physical focus.
- **Cochlear implants**, Ms. Leonor Aronson (2013). It explores models Advanced Bionics cochlear implants, Cochlear and Medel.
- **Programming interfaces with microcontrollers**, Prof. Mr. Laurence Bender (2012). Programming in micro controller (Robotics) with Arduino system.
- **Matlab**, Mr. Laurence Bender (2013). Programming language of numerical calculation for the development of software engineering solutions.
- **Fluid Dynamics**, Daniel Valdivia (2012): Basic analysis of applied hydrodynamics problems.
- **Introduction to Comsol, Jonathan Velasco** (2014): Management and applications software simulation of physical systems with the possibility of developing specific software functional calculation.

## Research Projects

- **Hearing Hearing & Auditory Perception Lab (2013 – Presente),** Ing. Florent Masson: Cochlear implants, theory and implementation in patients with hearing loss, auditory perception, spatial location in implant cochlear users.
  - **Pitch discrimination of tuned percussion instruments for cochlear implant users (2015 - 2016):** Analysis of rhythmic patterns with different spectral content for the analysis of musical perception thresholds. Contributors: Ing. Florent D. Masson and Ph D. Shin-ichi Sato and Investigation Department of USB Medellin.
    - **Encuentro de Ingenieria de Sonido (Medellín, Colombia)**
    - **International Congress of Acoustic 2016 (Granting of "ICA-ASA Young Scientist Conference Attendance Grants")**
- **Development of software measurement and calculation of impulse responses in three dimensions (2015-2016) (Thesis work):** New technology in analysis of impulse responses captured by a microphone Soundfield format A. It offers temporary mapping and direction of the reflections captured. Many practical applications in acoustic design and industry. Contributor: Ph D. Alejandro Bidondo (UNTREF) and Santiago Ruiz Sánchez (USB Medellin).
  - **Jornadas de Audio, Sonido y Acústica 2015 (Buenos Aires, Argentina)**
  - **Encuentro de Ingenieria de Sonido (Medellín, Colombia)**
  - **AES Ciclo de Ponencias 2016 (Bogotá, Colombia)**
  - **International Congress of Acoustic 2016**
- **Design and construction of a small anechoic chamber (2015 – 2016):** Work experience in the Cultural Center for Science in the Ministry of Science, Technology and Innovation. Contributor: D. Joaquin Mansilla
- **Development of a quadruple stethoscope (2015):** Project in partnership with the Faculty of Engineering of Buenos Aires and medical equipment. Development of a stethoscope four functions: Electronic Stethoscope acoustic stethoscope Doppler, ECG and micofono contact to discuss with the patient in special situations.
- **Tympanometry Wideband Reflectance (2014).** Development of new technology of tympanometry system that allows to identify diferents acoustic trauma.
- **Design and construction of a intensiometric probe, type p-p. (2014):** Personal project. A device that can measure the acoustic power in presence of other sources. Permit: identification of noise sources, visualitation of acoustic fields, measurement of sound reduction index, measurement of acoustic absorbtion. Aplication in noise control industries and automotive industry.
- **Design and construction of a commercial audiometer of screening (2014).** Development of a system for his commercialization in industry.
- **Auditory physiology (2011 -2016):** Dr. Santos Tieso
  - **International Congress of Acoustic 2016, Buenos Aires.** “Tympanic Membrane Physiology”; “Harmonic Hidromechanical Movement”.
  - **IX Congreso Iberoamericano de Acústica FIA2014, Valdivia Chile.** “Influence of the outhair hair cells”; “Tympanic membrane teoretical model“ ; “Evaluation of the perception of the virtual image in patients whit cochlear implants.”.
  - **International Congress of Acoustic 2013, Montreal Canada.** “Harmonic Hidromechanical Movement”.
  - **8vo Encuentro del Grupo Latinoamericano de Emisión Acústica 2013, Buenos Aires Argentina.** “Physiology of the annular ligament”; “Fysiology of the tympanic membrane” “Harmonic Hidromechanical Movement; “Influence of outhair hair cells”.
  - **Semana del Sonido, Buenos Aires Argentina** “Influence of outhair hair cells”.
- **Development and optimization of apps that allows to the cellphone works like a headset, Usound: (2013).** In collaboration whit Universidad Nacional de Jujuy.

## Experience

- UNIVERSITY OF SAN BUENAVENTURA MEDELLIN.** **2016**  
**Assistant Professor (Colombia)**  
*Invitation from professor Alexander Gribenchenko to expose introductory thematics of auditory physiology at the Acoustics and Psychoacoustics class, in the Engineering Sound career.*
- MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION** **2015**  
**Director of development and implementation.**  
**Acoustic specialist. (Argentina)**  
*Acoustic design and project management of "anechoic chamber". Thematic module with extraordinary acoustic characteristics. Permanent exhibition in "Lugar a dudas," 2015 (National Museum of Science) in the Technological Scientific Pole. 15 personnel in charge.*
- MUNTREF** **2014**  
**Research programming (Argentina)**  
*Project "Little Masters". Scheduler software. Neuroscience experiment with artistic productions*
- SOUND TECHNICIAN** **2008-2016**  
**Mundo Sónico Eventos (Argentina)**  
*Own sound service company. Running musical culture outdoor event for 5 years with the participation of all kinds of ensembles.*  
**Other companies:** Sonido Braga, Ichuproducciones, Sonidistas Asociados, Teatro La sodería

## Personal Reference

- Universidad Nacional de Tres de Febrero - Argentina**  
**Career director:** Ph. D. Alejandro Bidondo [abidondo@untref.edu.ar](mailto:abidondo@untref.edu.ar)  
**Profesor:** Dr. Florent Masson: [fmasson@untref.edu.ar](mailto:fmasson@untref.edu.ar)  
**Profesor:** Ph D. Sato Shin-Ichi: [ssato@untref.edu.ar](mailto:ssato@untref.edu.ar)
- Universidad de San Buenaventura - Colombia**  
**Career director:** Dr. Jonathan Ochoa Villegas [Sonido@usbmed.edu.co](mailto:Sonido@usbmed.edu.co)  
**Profesor:** B.Ph. Alexander Gribenchenko [alexandergribenchenko@hotmail.com](mailto:alexandergribenchenko@hotmail.com)
- Ministry of Cience, Tecnology and Innovation - Argentina**  
**Museum director:** Biol. Diego Golombek [dgolombek@gmail.com](mailto:dgolombek@gmail.com)  
**Contents Area:** Dr. Milena Winograd [milenawinograd@gmail.com](mailto:milenawinograd@gmail.com)
- MUNTREF - Argentina**  
**Museum and career director of Electronics Arts:** Lic. Mariano Sardon [marianosardonae@gmail.com](mailto:marianosardonae@gmail.com)
- Research directors in otolaryngology - Argentina**  
**Dr. Santos Tieso:** [santos\\_tieso@yahoo.com.ar](mailto:santos_tieso@yahoo.com.ar)  
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