

Kaëlig CASTOR

Senior Research Scientist

Acoustics/Audio/Signal Processing/Mechanics

International Mobility

130 Rue Saint Maur

75011 PARIS

FRANCE

Cell : +33 6.63.22.41.95

ckaelig@gmail.com

<http://kaelig.castor.free.fr>

Date / place of birth Nov. 27th 1974 / Provins, France

Citizenship French

Marital status Single, no kid

Education

PostDoc in Acoustics, UCSD, USA (2003)

PhD in Acoustics, University of Le Mans, FRANCE (2001)

Master in Applied Acoustics, Université du Mans, FRANCE (1997)

MSc in Applied Physics, University Paris XI- Orsay, FRANCE (1996)

Languages

French (mother tongue), English (fluent), Spanish (good level)



2007-present – Senior Research Scientist – CGG – France

- Software development, embedded systems in vibroseismic acquisition crews for earth subsurface imaging.
- Publication of patents and scientific articles, oral presentations in international specialized meetings.
- Signal processing on extensive field datasets.
- Consequent improvement in the fidelity and consistency of the acoustic source.
- Operational and technical supervision of crew startups and large-scale field tests for numerous major oil companies (Saudi Aramco, Qatar Petroleum, Shell, Total, ENI, Repsol, Apache, Khalda, PDO, Sonatrach, OMV).

Award/Distinction :

- 1st price in Technological Innovation CGG 2015 « Above and beyond » for a method called [CleanSweep™](#) that lowers significantly the harmonic noise in the vibroseismic source. It rewards the successful accomplishment in the project initialization, development and industrialization

2004-2006 – Research Engineer – Laboratoire de Détection et Géophysique, Départ. Analyse Surveillance Environnement, Commissariat à l’Energie Atomique – France

- Mathematical modeling, numerical simulation of hydroacoustic wave propagation (CTBT).
- Parallelisation of a 3D parabolic equation code on CEA super computers.
- Waveform analysis after propagation in ocean and atmosphere. Geophysical data processing for large scale experiments.
- Work performed for the French ministry of defense organization named DGA (national security clearance).

2001-2003 – Research Assistant – Marine Physical Laboratory Scripps Institution of Oceanography, University of California San Diego – USA

- Postdoc contract supported by *Office Naval Research* (CTBTO) and supervised by Pr. W. A. Kuperman.
- Numerical modeling and computation, small scale ultrasonic experiments.
- Equations of nonlinear acoustics and weak shock propagation. Nonlinear effects in long range propagation. Parametric interaction, nonlinear frequency-mode coupling in an acoustic waveguide.

1997-2001 – PhD – Teacher (Moniteur et Attaché Temporaire à l’Enseignement et à la Recherche) – Université du Maine, Le Mans – France

Research :

- Acoustical and electrical modeling of ionic loudspeakers using point-to-plane electrodes in the air.
- Modeling of the acoustic pressure associated with heat and momentum transfer between charged and neutral particles.
- Electrical model of the equivalent electrical circuit, derivation of the electroacoustic efficiency.
- Parametric study and optimization of the electrical and geometrical configuration.
- Design, construction and testing of the new experimental devices with a high-current modulation.
- Laboratory instrumentation interfacing with *HP VEE*.
- Electrical and acoustical measurements in anechoic chamber, electromagnetic insulation, directivity measurements.
- Measurements of the gas flow and the acoustic particle velocity using Laser Doppler Anemometry.

Teaching Assistant :

- Graduate degree (Master Degree in Applied Acoustics) and Undergraduate (Vibrations- Acoustics-Signal Processing).
- Designed, prepared and taught laboratory exercises in Acoustic, Vibrations, Physical Acoustics, Electronics and Electro-Acoustics.
- Designed, prepared and taught classroom exercises in Mechanics, Electronics and Electro-Acoustics Physical Acoustics, Vibrations Signal Processing, Electromagnetism, Mathematics.

Scientific Papers, Patents and participation to International Conferences
(see <http://kaelig.castor.free.fr> for complete bibliography and to download all papers)

Hobbies

Saxophonist in brass bands. Drummer in gigs, practice jazz piano, bass and enjoy music composition and MAO.