



Cristobal Gonzalez Diaz

Date of birth: 25 Dec 1977 | **Nationality:** French, Spanish | **Gender:** Male |

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About me: Easy-going, friendly, like to meet new people, self-motivated, reliable and highly committed person with a positive attitude to work. I am used to taking on responsibility, organising my work and meeting strict deadlines. Multi-cultural adaptability and willingness to travel. During my career development I have experienced many environments, handling successfully the cultural differences of nationalities and organisations. I enjoy being surrounded by people of other nationalities. My experience of living, working and studying abroad has provided me with a noticeable flexibility with which to perform new working methods, as well as a great adaptability in both professional and personal aspects. My communication skills in English and French are excellent. Spanish is my mother tongue. Additionally, I do hold a dual citizenship: Spanish and French. I am able to adapt quickly to new work environments; I am a good team worker and taking the initiative is not a challenge to my character.

● WORK EXPERIENCE

1 MAY 2017 – CURRENT – Madrid, Spain

SENIOR SCIENTIFIC RESEARCH FELLOW - MARIA DE MAEZTU FELLOW – CENTRO DE ASTROBIOLOGIA (INTA-CSIC) - NATIONAL INSTITUTE OF AEROSPACE TECHNOLOGY

- Measurements of the thermal conductivity and calorimetry of frozen salt solutions to support the JUPITER ICY moons Explorer (JUICE) (ESA) and Europa Clipper (NASA) missions.
- Experimental simulations in the InterStellar Astrochemistry ultra-high vacuum Chamber (ISAC), with base pressure down to $P = 1 \cdot 10^{-11}$ mbar and a cold finger at around 8 K achieved by means of a closed-cycle helium cryostat, to study the photo-desorption of analogous astrophysic ices.
- Design and built a “mini and portable” high vacuum chamber to estimate the porosity in ice of astrophysical interest by means of ultrasonic techniques. This chamber is a high vacuum chamber, with base pressure down to $P = 1 \cdot 10^{-5}$ mbar, with a cold finger at around 95 K, achieved by means of Liquid Nitrogen Bath Cryostat, temperature and pressure sensors and ultrasound transducer in the interior.
- Design and implementation an experimental setup to measure the thickness of analogous astrophysic ices during the accretion in an ultra-high vacuum (UHV) chamber by means of laser interference.
- Automatize, calibrate and optimise the experimental protocol in experiments dedicated to simulate the processes in astrophysically relevant ice analogs, allowing to reduce the duration of the experiments, save energy, and consumables such as helium/nitrogen for the refrigeration of the chamber and the IR detector.
- Reduce the time dedicated to process and analyse the experimental data, and a fully integrated real time analysis of the datasets during the experimental run, which allows to abort the experiment if the collected data are of poor quality, or make decisions to improve the results when needed.
- **R&D Project Manager, European Proposal's writer and Expert Evaluator (H2020-MSCA-ITN-2018, 2019, 2020, and Latvian State Education Development Agency-SEDA 2017, 2019, 2020 and 2021).**

Astrophysics | Professional, scientific and technical activities | cgonzalez@cab.inta-csic.es | <http://www.cab.inta-csic.es> |

Madrid, Spain

1 NOV 2013 – 30 APR 2017 – Madrid, Spain

SENIOR SCIENTIFIC RESEARCH FELLOW - MARIE SKŁODOWSKA-CURIE FELLOW – THE SPANISH NATIONAL RESEARCH COUNCIL (ITEFI-CSIC)

Marie Curie working in the Intra European Fellowship (IEF) project ACOCTIA (www.acocticia.eu):

- Reduction of airframe noise due to the landing gear cavities; specifically the cavity tones produced as a result of a fluid-dynamic or fluid-resonant oscillation by controlling cavity flow oscillations, with the aim to generate solutions that will bring improvement towards the ACARE objectives.

Hydroacoustic testing tank:

- Set up and calibration of the automation systems of a hydroacoustic testing tank. The tank consists of a 4.5 x 7.5 x 4.5 m tank with a two-carriage positioning system (XYZ and ΘZ motion).

- Software update of an editor that programs automatic trajectories and the "calibration software" that processes the signal obtained in the acoustic tank for the calibration of hydrophone and projector or emitter.

Technical functions:

- Administration of the European Project IEF ACOCTIA .
- Writing, Supervising and sent of the reports about the ACOCTIA Project to the European Commission, FP7 - Sesam.
- Updating the web page of the EU project ACOCTIA (www.acoctia.eu).
- **R&D Project Manager, European Proposal's writer and Expert Evaluator (Clean Sky2 - H2020-CS2-CPW03).**

Professional, scientific and technical activities | <http://www.itefi.csic.es> | Madrid, Spain

2 NOV 2010 – 1 NOV 2012 – Colmar-Berg, Luxembourg

STAFF ENGINEER – GOODYEAR INNOVATION CENTER* LUXEMBOURG (GIC*L) - TIRE VEHICLE MECHANICS GROUP

- Experimental and Numerical Analyses of the Dynamic Behavior of Rolling Tires in order to improve the Tire Modeling Accuracy.
- Obtain more accurate structural tire models through a better understanding of the influence of rolling on the tire dynamic behaviour.

Technical functions

- Speaker/Negotiator with LMS and KU Leuven in order to process/communicate the measurements and results of the test performed at Goodyear and post-process by them.

Administration

- Organising and coordinate the First Tire-Dyn public workshop; <http://www.tiredyn.org/events/first-tire-dyn-public-workshop>.

Individual Performance Review for Cristobal Gonzalez Diaz Direct Manager: Jan Leyssens

- Review Period: 01/01/2012 - 12/31/2012 Mid-Year Objective Comments by Jan Leyssens: "Cristobal will finish his involvement in the TireDyn project end of October this year. For the last 2 years he has been hosted as a "experienced researcher" by Goodyear and worked exclusively on the EU project. Technically Cristobal has made an excellent contribution both in the experimental and numerical part of the project. The success of the half term review with the EU Commission representative illustrated the thorough work of Cristobal at a technical level. But Cristobal contributed more than only technical. He integrated well as a full time member of the VM Group in Lux. His presence and character helped shaping the VM group over the last 2 years. His positive attitude and dedication motivated also the people around him. Cristobal chose to continue his career in Spain. We wish him a lot of success for the future".

http://www.goodyear.eu/home_en/landing-page.jsp | Colmar-Berg, Luxembourg

1 JUL 2009 – 31 OCT 2010 – Leuven, Belgium

ASSOCIATE ACADEMIC STAFF – KATHOLIEKE UNIVERSITEIT LEUVEN (KUL) - DEPARTMENT OF MECHANICAL ENGINEERING

Design, implement and built of [a unique test facility](#) (transmission suite), a powerful tool to characterise and analyse novel materials and optimized lightweight components:

- This non-standard test rig allows the experimental evaluation of the [acoustic insertion loss of lightweight](#) components for both air-borne and structure-borne excitation in a quick and very practical way.
- It consists of a concrete cavity of less than one cubic meter particularly shaped to ensure a desired distribution of the acoustic natural frequencies in the low frequency region.
- A test window at its front wall can host test specimen of different sizes and thicknesses. [Vibration levels, Sound Pressure Level, particle velocity and acoustic intensity](#) can be measured over the radiating component in the frequency range [50-10000] Hz.

Technical functions

Speaker/Negotiator with PCB, Endevco, LDS, Brüel&Kjær, Polytec, Festo in order to select and buy the instrumentation needed for the setup (transmission suite) which I was responsible and the leader of the group.

<http://www.mech.kuleuven.be/en/pma> | Leuven, Belgium

31 JAN 2005 – 31 MAY 2009 – Southampton, United Kingdom

RESEARCH FELLOW – INSTITUTE OF SOUND AND VIBRATION RESEARCH – UNIVERSITY OF SOUTHAMPTON - SIGNAL PROCESSING AND CONTR

- Analytical model and theoretical study of the stability and control performance properties of one and five feedback control loops on a clamped rectangular panel which uses the velocity error signal.
- Present stability and control performance experimental test of a miniaturised prototype actuator specifically designed for Active Structural Acoustic Control (ASAC) smart panel.
- Practical implementation of decentralised velocity feedback control on a thin aluminium rectangular panel with five prototype miniaturised electrodynamic actuators.
- Smart Fuselage for Active Structural Acoustic Control (ASAC) smart panel; experimental work on the implementation of decentralised velocity feedback control loops on the trim panel of a Bombardier Dash-8

aircraft fuselage section have been carried out. For this study a five channel control system with small scale electro-dynamic actuators has been used.

- A fully coupled model of a panel with multiple velocity feedback loops using inertial electro-dynamic actuators has been derived. This model is used to assess the down-scaling effects of multiple control units.

Technical functions

- Speaker/Negotiator with Bombardier in order to process/communicate the results.
- Management of the project team (2/3 people).

Administration of the European project EDSVS (126 PhD students)

- Writing, Supervising and sent of the reports about the EDSVS programme to the European Commission, FP6.
- Updating the web page of the EU project EDSVS.
- Following and updating the reports of the EU project EDSVS.

<http://www.isvr.soton.ac.uk/> | Southampton, United Kingdom

20 JAN 2002 – 3 JUL 2002 – Paris, France

RESEARCH INTERNSHIP – ECOLE SUPÉRIEURE DE PHYSIQUE ET DE CHIMIE INDUSTRIELLE DE LA VILLE DE PARIS (ESPCI)

- Study and optimisation of the performance of Multi-Wire Chamber (Gamma Camera) for imaging applications in nuclear medicine.
- Study the Gamma Camera and put into operation a new electronic.
- Introduction of an AD converter and by means of Labview treated and visualised the information on a screen.

Paris, France

● **EDUCATION AND TRAINING**

31 JAN 2005 – 17 DEC 2007 – Southampton, United Kingdom

PHD - "ACTIVE STRUCTURAL ACOUSTIC CONTROL SMART PANEL WITH SMALL SCALE PROOF MASS ACTUATORS" – University of Southampton

Field(s) of study

- Engineering

Doctor of Philosophy - PhD | Active structural acoustic control smart panel with small scale proof mass actuators |

EQF level 8 | PhD | <https://eprints.soton.ac.uk/64536/>

OCT 2002 – JUL 2003 – Paris, France

DEA D'ELECTRONIQUE - MASTER DEGREE OR EQUIVALENT – University Pierre et Marie Curie - Paris VI

Engineering

Field(s) of study

- Engineering, manufacturing and construction : *Electronics and automation*

Mention Assez Bien | EQF level 7 | D.E.A. in Electronic

OCT 1996 – NOV 2002 – Madrid, Spain

LICENCIADO EN CIENCIAS FISICAS - APPLIED PHYSICS – Universidad Autonoma de Madrid

Applied Physics

Field(s) of study

- Natural sciences, mathematics and statistics : *Physics*

EQF level 7 | Licenciatura en Ciencias Físicas

● LANGUAGE SKILLS

Mother tongue(s): SPANISH

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
FRENCH	C2	C2	C2	C2	C1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

SolidWorks | PatranNastran 2001 2004 | Microsoft Office | Outlook | Google Drive | Windows | Mac OS | Matlab | AutoCAD | Microsoft Excel | Microsoft Word | Microsoft Powerpoint | Power Point | Skype | LinkedIn | LabView | Microsoft Office (Word Excel) | -Basic knowledge of Arduino and Raspberry Pi | Google Docs | Good listener and communicator | Zoom | Motivated | Internet user | Analytical skills | Team-work oriented | Autocad inventor

● PUBLICATIONS

Full list of **SCIENTIFIC PUBLICATIONS** in peer-reviewed international journals and **CONFERENCE PROCEEDINGS**

<http://acoctia.eu/researcher.html>

● DRIVING LICENCE

Driving Licence: AM

Driving Licence: A1

Driving Licence: A2

Driving Licence: A

Driving Licence: B1

Driving Licence: B

Driving Licence: BE

Driving Licence: C1

Driving Licence: C

● HONOURS AND AWARDS

Marie Skłodowska-Curie actions – European Commission

- Awarded the **Marie Skłodowska-Curie Actions Seal of Excellence** for the project proposal 750387, MetaSilence submitted under the Horizon 2020's Marie Skłodowska-Curie actions call H2020-MSCA-IF-2016 of 14 September 2016. [[Seal of Excellence](#)].
- Awarded **two** years [FP7-PEOPLE-2011-IEF-301287](#): Marie Curie: "Intra-European fellowships for career development", [ACOCTIA website](#)
- [SUPERIOR PAPER AWARD](#) For Excellence Of Presentation And Significance Of Content. "The Tire Society", 18/09/2012
- Awarded **two** year [FP7-PEOPLE-2009-IAPP- 251211](#): Marie Curie: Industry-Academia Partnerships and Pathways, [TIRE-DYN website](#)
- Awarded one-year postgraduate scholarship; "Experienced Researcher" "Smart Structures – A Computer Aided Engineering Approach to Smart Structures" ([FP6-2005-MOBILITY-1-35559](#)). [SMART STRUCTURES Website](#)
- Awarded four – years postgraduate scholarship; "Early Stage Training site Marie Curie" programme for the "European Doctorate in Sound and Vibration Studies" ([EDSVS](#)), which was funded by the European Commission ([FP6-2002-MOBILITY-2-503675](#)).

● ORGANISATIONAL SKILLS

Expert evaluator/ reviewer in research and training programmes for the European Commission:

- Cristobal assists the European Commission with its research activities as **Proposal evaluator**: Expert in **MARIE SKŁODOWSKA-CURIE INNOVATIVE TRAINING NETWORKS**. [H2020-MSCA-ITN-2020](#), [H2020-MSCA-ITN-2019](#) and [H2020-MSCA-ITN-2018](#).
- **RAPPORTEUR, EVALUATOR and EXPERT (2021, 2020, 2019 and 2017)** of the [Latvian State Education Development Agency \(SEDA\)](#): Assisting the State Education Development Agency with its research activities as Proposal evaluator: Expert in in the evaluation of research proposals submitted within the Activity 1.1.1.2 "Post-doctoral Research Support" financially supported by the European Regional Development Fund.
- Cristobal assists the European Commission with its research activities as **Proposal evaluator**: Expert in **Clean Sky2** Call for Partner evaluation. [H2020-CS2-CPW03 \(2016\)](#).

Reviewer in journal publications:

- Journal of Sound and Vibration (JSV),
- Applied Acoustics,
- International Journal of Applied Mechanics,
- Noise Control Engineering Journal (NCEJ),
- American Society of Mechanical Engineers (ASME) Noise Control and Acoustics Division Conference,
- International Journal of Scientia Iranica.

ORGANISATION OF SCIENTIFIC MEETINGS

- Organization and coordination the "First Tire-Dyn public workshop". Leuven, Belgium, 22/09/2011. (45 participants).
- "Students Meeting European Universities". Representing University of Southampton Prague – Czech Republic, September 2005.

R&D&I MANAGEMENT EXPERIENCE

- Writing, supervision and delivery of the reports and deliverables related to EU projects to the European Commission
- Research Participant Portal (FP7) and SESAM (FP6). Updating their web pages.
- Administration and Task manager of the EU FP7 IEF ACOCTIA.
- Participant Contact of the EU FP7 IAPP TIRE-DYN.
- Administration of the European project EU FP6 EDSVS (126 PhD students).
- Writing of an approved EU Marie Curie – Intra European Fellowships (IEF) project. Grant Agreement Number 301287 – FP7-PEOPLE-2011-IEF.
- EU Project Manager (FP6, FP7 and Horizonte2020).

● TEACHING ACTIVITIES

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- During his PhD and Postdoc at the ISVR he taught the "Active Control of Sound and Vibration short course Lab", ISVR, Southampton, UK.
- First Tire-Dyn Workshop: "Experimental characterisation and numerical prediction of the dynamic behaviour of rolling tyre", KU Leuven, Leuven, Belgium.
- Design, development and installation of an "Active Vibration Control (AVC) demo" to show to the clients; Airbus, Boeing, Bombardier, Jaguar, Renault, Rolls Royce...2006, Southampton, UK.

● OTHER SKILLS

Other skills

- General measurement instrumentation and signal processing.
- Noise and vibration measurements and analysis (LMS, LMS Test.Lab, B&K Pulse, Laser Doppler Vibrometer)
- Vehicle NVH testing (laboratory and test track measurements).
- Experience with Ultra-High Vacuum (UHV) set-ups, with base pressure down to $P = 2.5 \cdot 10^{-11}$ mbar where an ice layer is deposited at 7 K using a cryostat. This includes: Pumping systems, Vacuum UV lamps, Fourier-transform infrared (FTIR) spectroscopy, Raman spectroscopy, Quadrupole Mass Spectrometer (QMS), Vacuum Ultraviolet (VUV) spectrometer, ice thickness measurement by laser interferometry.
- Design and built a "mini and portable" high vacuum chamber to estimate the porosity in ice of astrophysical interest by means of ultrasonic techniques.
- Design and implementation an experimental setup to measure the thickness of analogous astrophysical ices during the accretion in an ultra-high vacuum (UHV) chamber by means of laser interference.

● RELEVANT ACHIEVEMENTS

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- During the ERASMUS year (2001-2002), thanks to the outstanding results the PI obtained during the stage and the mature approach to his research, he was **recommended to pursue the following year a Master's in Electronics** in the same university even though he did not fulfil all the requirements needed at that time. He got excellent marks and an outstanding Stage; he was told he had managed to complete in 6 months more work than the work done by the previous PhD student in 18 months.
- Cristobal successfully **finished his PhD in 34 months** (average 48 months) and he also managed to help his supervisor with the administration duties of a EU project he was coordinating.
- During 3 years of post-doctoral experience in two different European universities, the PI successfully undertook two different projects. The first one in **collaboration with Bombardier** where he implemented the Active Vibration Control (AVC) system he developed during his PhD into a real part of an aircraft; a fuselage section of a **BOMBARDIER Dash-8 Q400**. In the second European University, the PI **designed an acoustic cavity** for vibro-acoustic characterization of lightweight panels ([Gonzalez Diaz et al. 2010](#)).
- Cristobal at Goodyear as **Staff Engineer** got excellent Individual Performance reviews by his manager Jan Leyssens: "For the last 2 years he has been hosted as a "experienced researcher" by Goodyear and worked exclusively on the EU project. The **success of the half term review with the EU Commission representative illustrated the thorough work of Cristobal at a technical level**. But Cristobal contributed more than only technical. He integrated well as a full time member of the VM Group in Lux. **His presence and character helped shaping the VM group over the last 2 years**. His positive attitude and dedication motivated also the people around him. Cristobal chose to continue his career in Spain"
- Cristobal **wrote an approved FP7-PEOPLE-2011-IEF - Marie-Curie Action**: "Intra-European fellowships (IEF) for career development" ACOCTIA (<http://www.acoctia.eu>).
- Since Cristobal started as a Researcher in Paris 2002, He has worked in many different fields. This acquired knowledge and experience make him an all-rounder and He can switch quickly. For instance, since 2017, He is working at the Astrobiology centre (INTA-Madrid) trying to find and simulate life at the interstellar space something he had never done previously in his professional career. Therefore, He is applying the acquired knowledge to a field which has become very quickly his passion. In short: **the Space has all the ingredients for him, and he goes to work every day full of passion and energy!**