Christian Daniel Muñoz

Electronic Engineer

Ph.D. Photonics and Optoelectronic Systems

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LANGUAGE

Spanish - Native language

English - Proficient

French - Fluent

IT SKILLS

Matlab	Optisystem
Python	OriginPro
VPIPhotonics	Inkscape
ADS - Keysight	

PERSONAL SKILLS

Learner	Discipline
Teamwork	Analytical

AWARDS

Student Award
ISROS Symposium
2019

Ph.D. Scholarship
CEIBA Foundation
2015 - 2020

Meritorious Master Thesis
Univ. Nacional de Colombia
2012

M.Sc. Scholarship
Univ. Nacional de Colombia
2010 - 2011

INTERESTS

Geopolitical and history of wars readings

Singing choir

Swimming

PRO REFERENCES

Prof. Angélique Rissons, Ph.D.
Full time professor
ISAE - Supaero
+33 5 61 33 81 35
angelique.rissons@isae-supaero.fr

Prof. Margarita Varón, Ph.D.
Full time professor
Universidad Nacional de Colombia
+57 317 42 67 992
gmvarond@unal.edu.co

EDUCATION

ISAE-Supaéro, France
2016 - 2020
● Ph.D. Photonics and Optoelectronic Systems
Optical microwave signal generation based on VCSEL for data transmission in optical networks

Universidad Nacional de Colombia
2010 - 2012
● M.Sc. Telecommunication Engineering
Transmission of synchronization signals by optical fiber networks

Universidad Nacional de Colombia
2005 - 2010
● Electronic Engineering
Speciality in telecommunications and networks

WORK EXPERIENCE

Oct. 2021 Currently
● **Higher Research Scientist.** *National Physical Laboratory - UK*
- Coordinating the implementation of two Use Cases in European projects related to QKD systems.

Aug. 2020 Sep. 2021
● **Postdoctoral Fellow.** *ISAE-Supaéro - France*
- Modeling and emulation of the effects of atmospheric turbulence on the free space propagation of an optical beam.

Dec. 2016 Jun. 2020
● **Researcher Ph.D. Candidate.** *ISAE-Supaéro - France*
- Simulation of optoelectronic systems with specialized software.
- Design and implementation of microwave signal generators.
- Design, simulation and implementation of optical transmission systems.

Apr. 2013 Aug. 2016
● **Technical Instructor.** *Servicio Nacional de Aprendizaje - Colombia*
- Technical training: passive optical networks and hybrid fibre-coaxial networks.
- Preparation and application of study guides on telecommunication networks.
- Curriculum design and support in the self-assessment process of training programs.

Dec. 2012 Feb. 2013
● **Junior Consultant.** *Universidad Nacional de Colombia*
- Documents preparation for the ICT ministry's *"Information and Data Security in Colombia - 2012"* project.

Aug. 2014 Jun. 2015
● **Lecturer.** *Universidad Nacional de Colombia*
- Computer programming. *C++ language*.

Nov. 2011 Mar. 2012
● **Internship.** *Universitat Politècnica de Catalunya - Spain*
- Contribution to the development of a *pricing model* for the Internet service.

PUBLICATIONS

C.D. Muñoz, M. Varón, F. Destic, A. Rissons. Phase noise modeling and characterization of a Self-started VCSEL-based Harmonic Frequency Generator (SVHFG), Optics & Laser Technology, 143, Jun. 2021. **doi.org/10.1016/j.optlastec.2021.107176**.

C.D. Muñoz, M. Varón, F. Destic, A. Rissons. Self-starting VCSEL-based Optical Frequency Comb generator (SVOFC), Optics Express, 28(23), 34860-34874. Nov. 2020. **doi.org/10.1364/OE.400970**

J. Coronel, C.D. Muñoz, M. Varón, F. Destic, A. Rissons, V. Rodrigues, K. Bougueroua. *X-band and Ku-band VCSEL-based optoelectronic oscillators using on-chip laser*, Optical Engineering. 58(7), 070501 (23 July 2019). **doi.org/10.1117/1.OE.58.7.070501**

C.D. Muñoz, A. Rissons, F. Destic, J. Coronel, M. Varón. VCSEL Based Optoelectronic Oscillator (VBO) for 1.25 Gbit/s RZ Pulse Optical Data Generation, 2018 International Topical Meeting on Microwave Photonics (MWP), **doi.org/10.1109/MWP.2018.8552843**.

C.D. Muñoz, K. Elayoubi, A. Rissons, S. Villamizar, M. Varón. O-band and C-band VCSEL based optoelectronic oscillator (VBO) for 1.25 Gbit/s pulsed RZ-OOK and RZ-DPSK free space optical transmissions, 2017 International Topical Meeting on Microwave Photonics (MWP), **doi.org/10.1109/MWP.2017.8168782**.

C.D. Muñoz, J. Coronel, M Varón, A. Rissons. Microwave Signal Generation using Optical Injection Locking, OSA Latin America Optics and Photonics Conference, 2016, **doi.org/10.1364/LAOP.2016.LW4C.5**.