

Edgar Eduardo Salazar Florez

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Professional Summary

Ph.D. in electrical engineering and signal processing, passionate for research and education. Interested in solving problems through analytical thinking and involving students, industry and academics.

"The world can be changed one class at a time"

Experience

Feb. 2023 - Dec. 2023
La Paz, Bolivia

Full time professor, Universidad Católica Boliviana

- In charge of the classes of Electronic Circuits I, Electronic Circuits III, Signals and Systems.
- Recognized as best professor for excellence in teaching practices (I-2023).

Jun. 2022 - Dec. 2022
Philadelphia, Pennsylvania

Postdoctoral research fellow, University of Pennsylvania

- In charge of evaluating the effects of Compton-scattered photons in spectral computed tomography.
- Participant of multidisciplinary projects together Philips and Siemens.
- As a result, one journal paper (Journal of Applied Clinical Medical Physics) and one conference paper (SPIE Medical Imaging) were published.

Jan. 2022 - May. 2022
Newark, Delaware

Teaching Assistant, University of Delaware

- In charge of the graduated-level class of Statistical Learning.
- In charge of designing assignments, tests, and final projects.

Jan. 2021 - Dec. 2021
Newark, Delaware

University Doctoral Fellow, University of Delaware

- In charge of the project "X ray Compton back-scattering imaging using structured light".
- As a result, one journal paper (Optics Express) and one conference paper (SPIE Defense and commercial sensing) were published.

Feb. 2019 – Dec. 2020
La Paz, Bolivia

Part-time professor, Universidad Católica Boliviana

- In charge of the classes of Physics I, Laboratory of Electromagnetism, Signals and Systems.
- Recognized as best professor for excellence in teaching practices (I-2019).

Feb. 2019 – May. 2020
La Paz, Bolivia

Part-time professor, Universidad Privada Boliviana

- In charge of the classes of Signals and Systems, Digital Signal Processing, and Linear Algebra I.

Jul. 2016 – Jan. 2019
Newark, Delaware

Research Assistant, University of Delaware

- In charge of the project "Resolution limits of compressive sensing-based spectral cameras".
- Manager of the applied optics laboratory.
- As a result, two journal papers (IEEE Transactions on Computational Imaging) and three conference papers (Computational, Optics, Sensing and Imaging) were published.

Oct. 2014 – Nov. 2015
Hamburg, Germany

Research Assistant, Technical University of Hamburg

- Participant of the projects "Modelling of Air traffic using Markov Models" and "Characterization of electrical impedance of biological samples using Finite Element Methods".
- As a result, one conference paper (BIOSTEC) and one technical poster (SAFE) were published.

Jun. 2012 – Dec. 2012
Newark, Delaware

Visiting scholar, University of Delaware

- Participant of the Summer research program at the University of Delaware.
- Participant of the project "Compressive sensing methods applied to hyperspectral imaging".

Aug. 2010 – Sep. 2011
Bucaramanga, Colombia

Research Assistant, Universidad Industrial de Santander

- Participant of the project "Design of electromagnetic absorbers using Particle Swarm Optimization and Interval Analysis".
- As a result, one journal paper (Ingeniería y Universidad) was published.

Feb. 2011 – Aug. 2011
Bucaramanga, Colombia

Teaching Assistant, Universidad Industrial de Santander

- In charge of the class Design of Analogic Circuits.

Education

May. 2022

Ph.D.

• University of Delaware, Newark, Delaware

November. 2015

Master of Science:Microelectronics and Microsystems

• Technical University of Hamburg, Hamburg, Germany

September. 2011

Bachelor of Science:Electronics Engineering

• Universidad Industrial de Santander, Bucaramanga, Colombia

skills

Research	<i>Expert</i>
Matlab	<i>Experienced</i>
Python	<i>Experienced</i>
Medical Imaging	<i>Skillful</i>
Optics and X-rays imaging	<i>Skillful</i>
Problem solver	<i>Expert</i>
Ideas generator	<i>Expert</i>

Languages

Spanish	<i>Native speaker</i>
English	<i>Fluent</i>

Publications

- Impact of scatter on spectral performance of first and second generation dual-layer CT. Journal of Applied Clinical Medical Physics. In review process.
- Dual-source photon-counting CT: impact of residual cross-scatter on quantitative spectral results. SPIE Medical Imaging.
- Coded aperture optimization for Compressive X-ray Compton Backscattering imagers. Optics Express. In preparation for publication.
- X-ray Compton Backscattering Imaging via Structured Light. Optics Express. doi.org/10.1364/OE.456610
- On the Move Compton Backscattering Scanning. SPIE Defense and Commercial Sensing. doi.org/10.1117/12.2618317
- Coded Aperture Optimization in Spatial Spectral Compressive Spectral Imagers. IEEE Transactions on Computational Imaging. 10.1109/TCI.2020.2980159.

- Optimal coding patterns in spatial spectral compressive spectral imagers. Computational, Optics, Sensing and Imaging. doi.org/10.1364/COSI.2019.JW4B.3.
- Spectral Zooming and Resolution limits of spatial spectral compressive spectral imagers. IEEE Transactions on Computational Imaging. 10.1109/TCI.2019.2893596.
- Spatial super-resolution in SSCSI compressive spectral imagers. Computational, Optics, Sensing and Imaging. doi.org/10.1364/COSI.2018.CTu5D.5.
- Spectral zooming in SSCSI compressive spectral imagers. Computational, Optics, Sensing and Imaging. doi.org/10.1364/COSI.2018.CTu5D.7.
- An impedance spectroscopy ASIC for low-frequency characterization of biological samples. BIOSTEC. 0.5220/0005772202220228.
- Simulation of cell cultures by effective medium approximations using the finite-element method. SAFE. 10.11144/JavEriana.iYU18-1.daEo
- Code aperture imaging from the visible to X-ray. University of Delaware Library.

Websited

- [Scholar](#)
- [ResearchGate](#)
- [GitHub](#)

Awards

- Recognized as best professor for excellence in teaching practices, 2023, Universidad Católica Boliviana.
- Signal processing, Communications, and Control Award, 2022, University of Delaware.
- University Doctoral Fellowship Award, 2020, University of Delaware.
- Recognized as best professor for excellence in teaching practices, 2019, Universidad Católica Boliviana.
- Summa Cum Laude Distinction, 2011, Universidad Industrial de Santander.
- Best student of the electrical engineering school, 2006,2008,2009,2010,2011, Universidad Industrial de Santander.

Affiliations

- IEEE, Regular member.
- SPIE, Regular member.
- Optica, Regular member.