

May 15, 2019

Prof. Stefan Soldner-Rembold and Prof. Edward C. Blucher, DUNE Collaboration Spokespeople

Prof. Robert Wilson, Institutional Board Chair

Dear DUNE Spokespeople and IB Chair,

Professor Javier Castano, at the Universidad Antonio Nariño (UAN), hereby apply to join the DUNE Collaboration.

I am an Assistant Professor since 2016. I have extensive knowledge and experience of Digital Systems, Embedded Hardware, Telematics, FPGA applications and thanks to my work in the Detectors Laboratory at UAN as a graduate student from 2013 to 2016, I have extensive knowledge of SiPM, PMT and GEM detectors, as well as Front-end and Digital electronics for this kind of devices.

I was at Hamamatsu Photonics (Japan) in 2014, developing an internship program for 2 months, then I worked at NEXT Experiment at the IFIC (Valencia, Spain) in 2017 for 3 months. Recently, I was Visiting Research Fellow at the High Energy Physics Group of the University of Bristol, where I was collaborating in the development of a 40-channels, 14 bit, 65 MSps digitizer board focused to Photon Detection, as a modification of the existing SoLiD digitizer board, activity supported by the UK-Latin America Neutrino Initiative.

As a graduate student I was participating in the design of a new technology for visible light communication based on SiPM and I am co-author of 3 patent requests in process:

- Optical receiver for visible light communication based on SiPM (Colombia and PCT process)
- Optical Wireless Multiuser Transceiver (Colombia)
- Network architecture for visible light communication (Colombia)

I have been involved in different projects related to embedded systems and FPGA applications, mainly in applied cryptography, detectors technology and telematics.

In general, I am interested in participating in the development and testing of the Warm Electronics for the Photon Detection System, specifically the new digitizer board (DAPHNE) through the adaptation of the previous Mu2e board and all the aspects related to PCB, firmware, hardware and software required for this new device, including FPGA, microcontrollers and other related technologies, considering the current planned activities.

Sincerely,

Javier Castano (jfcastanof@uan.edu.co)

Assistant Professor of Electronics Engineering, Universidad Antonio Nariño



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Signature

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Date