Stephan X. Esterhuizen

GNSS-R Payload Manager

Spire Global
+1-818-949-8407

Education

2004–2006 **M.S. Electrical Engineering**, *University of Colorado*, Boulder.

2000–2004 **B.S. Computer Engineering**, *University of Colorado*, Boulder.

Skills

Languages C/C++, Python, Matlab, Bash, Verilog, Assembly, JavaScript, HTML/CSS, SQL

Other FPGA, Jenkins, Vivado, HLS, Linux, Yocto, uBoot, VxWorks, RTEMS, Github, OpenGL, Blender, ZeroMQ

Spire Global (2018-present)

2018–present **Payload Manager**, *GNSS-R*, Working with a team of engineers to deliver a GNSS-R instrument for small satellites.

NASA/JPL (2006-2018)

2017–2018 **Co-Investigator**, *GNSS-R*, NASA IIP: Part of a team building a multi-frequency beam-steerable GNSS-R instrument for small spacecraft. Receiver architect and DSP/software lead.

2015–2017 **Principal Investigator**, *8x R&TD*, Towards sub-millimeter formation knowledge and millimeter-level formation control for small satellites. Developing software, hardware, and algorithms to enable fuel-efficient formation flight with small spacecraft..

2015–2016 **Co-Investigator**, *GNSS-R SMAP*, Received Spontaneous R&D money, developed signal processing to detect Earth-reflected GPS L2 signals using SMAP radar receiver (post SMAP transmitter anomaly).

2015–2016 **Technical Team Lead**, *GNSS-RO CICERO*, Led a team of 5 engineers to deliver a radio occultation instrument for the CICERO cube-sat mission. On-time and on-budget delivery of instrument.

2014–2017 **Co-Investigator**, *GNSS-R/RO*, Designed a new wide-band Radio Frequency (RF) ASIC front end for GNSS remote sensing applications. Architect of optimal RF ASIC for radiometric performance.

2012–2015 **US. Delegate**, Part of the US delegation representing NASA at the United Nations Office of Outer Space Affairs, International Committee on GNSS. Advising UN member states on designing inter-operable GNSS constellations with the scientific community in mind.

2010-2015 **Software Engineer**, *COSMIC-II*, Software architect for TriG, designed and delivered GNSS radio occultation instrument software for the COSMIC-II mission.

2009-2011 **Firmware Engineer**, *LISA*, Designed hardware/software for the LISA gravitational wave detector to perform precise phase locking of lasers to a cavity using the Pound-Drever-Hall (PDH) technique.

2006-2008 **Software/Firmware Engineer**, *GNSS-R*, Designed hardware, firmware, and software for TOGA, a 5 FPGA beamforming GPS reflections instrument. Performed airplane test flights over Pacific ocean with instrument.

Patents

A Method to measure total noise temperature of a wireless receiver during operation. United states patent 8688065, Issued April 2014. Lawrence E. Young, Dmitry Turbiner, Stephan X. Esterhuizen.