

Objective To apply my advanced technical, analytical, and creative skills in physics and systems engineering to projects involving hardware and software design and testing.

Experience **Stereotaxis, Inc. (through a contract with Yoh Services)** *Engineering Physicist*
Saint Louis, MO **Nov. 2005 – Apr. 2007**
Designed and analyzed next-generation designs for magnetic medical device systems. Formulated system requirements for next-generation systems, based on input from physicians. Performed risk analysis for systems requirements. Performed compatibility work with partner X-ray systems.

Washington University *Graduate Research Assistant*
Saint Louis, MO **May 2000 – Nov. 2005**

Involved in 3 major projects:

- Designed a computer controlled electro-optical device for *in situ* quantum efficiency measurements of Indium Gallium Nitride (InGaN) thin film coatings.
Engineered an optical bench for delivering ultra-violet (UV) light pulses to the InGaN semiconductor detector.
Formulated and constructed an analog electronic readout system for measuring electronic signals produced by the detector.
Created computer automation software using LabVIEW.
- Developed and analyzed flash analog to digital conversion (FADC) boards for the VERITAS gamma-ray telescope currently being constructed in southern Arizona.
Tested more than 100 FADC boards for the telescope. Debugged and corrected errors during production of the boards, and characterized their properties.
Participated in the integration of the telescope, including interfacing and troubleshooting a large number of electronic, mechanical, software, and optical systems.
- Analyzed and interpreted data from astrophysical sources. Converted raw data taken from the telescope, and produced physical parameters.
Used both time-series and frequency-space analysis to determine properties of the astrophysical source.
Created mathematical models in C and C++ to determine further physical properties.

Washington University *Teaching Assistant*
Saint Louis, MO **August 1999 – December 2001**

Teaching assistant for physics courses for non-science majors, and for an electronics lab course for physics majors.
Explained complex physical concepts to undergraduates without prior math or science training. Helped students with electronic experiments involving both digital and analog components. Responsible in all courses for evaluating student work and assigning grades.

Qualifications *Programming Languages:* C, C++, LabVIEW, Mathematica, Matlab

Software Tools: Unix Shell Scripts, L^AT_EX, Root, Gnuplot, Microsoft Office tools, Matlab, Ansoft Maxwell 3D, Microsoft Visio

Operating Systems: Linux, Mac OS X, Windows

Hardware: Oscilloscopes, electro-optical device metrology, photomultiplier tubes, lasers and laser maintenance, data acquisition systems, radiation detection, mixed signal (analog/digital)

Specific Interests: computer interfaces with hardware, spectrophotometry, electro-optical sensors, electronic readout and triggering of signals

Language Skills: proficient in French

Education Washington University in St. Louis, Missouri, USA
Ph.D., Physics, May 2006

Washington University in St. Louis, Missouri, USA
A.M., Physics, 2001

The College of Wooster, Wooster, Ohio, USA
Bachelor of Arts with honors in Physics (minor in Mathematics), *Cum Laude*, 1999

Professional Affiliations American Physical Society, American Astronomical Society, IEEE

Selected Publications P.F. Rebillot, et al., *Astrophysical J.*, 641, 1 (2006).
D.J. Leopold, J.H. Buckley, and P.F. Rebillot, *J. Applied Physics*, 98, 043525 (2005).
P.F. Rebillot and D.T. Jacobs, *J. Chemical Physics*, 109, 10 (1998).

References Available on request.