

Laurence Stant | Curriculum Vitæ

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Education

University of Surrey

PhD in Microwave Engineering

In progress, expected finish October 2018.

Guildford, UK

2014–2018

University of Surrey

BSc.(Hons) Physics with Nuclear Astrophysics, Upper Second Class

Industrial placement at National Instruments UK and Ireland.

Guildford, UK

2010–2014

Experience

Diamond Light Source Ltd.

RF Engineer

Member of the group responsible for continuous operation of the RF systems supporting a 3 GeV synchrotron and injector accelerators. Developing and commissioning new FPGA digital low-level RF control systems, RF cavities (normal- and super-conducting) and 60 kW solid-state power amplifiers.

Harwell, UK

Apr 2018–Present

National Institute for Standards and Technology (NIST)

Guest Researcher

Nonlinear microwave characterisation and further development of a software uncertainty framework.

Boulder, CO

Apr 2017–May 2017

Satellite Applications Catapult

Satellite Engineering Intern

Full mechanical, electronic and firmware design and development of a picosatellite kit for educational purposes. Delivery of two-day course at British embassy in Warsaw during UKTI trip to Poland in December 2014.

Harwell, UK

Aug 2014–Oct 2014

Diamond Light Source Ltd.

Beamline Scientist Intern

Development of a closed-cycle humidity chamber for the Grazing Incidence Small Angle X-Ray Scattering (GI-SAXS) upgrade project on the I22 beamline. Additionally, I added EPICS control system integration to an existing pressure cell controlled using LabVIEW, including prototyping interfaces using EDM.

Harwell, UK

July 2013–Sept 2013

National Instruments UK and Ireland

Applications Engineer Intern

Providing technical support and advice to customers throughout the UK in embedded systems design and automated test, using LabVIEW and other National Instruments products. I have used this experience to assist controls engineers when visiting science facilities such as HFML in the Netherlands and ISIS at RAL.

Newbury, UK

July 2012–June 2013

Met Office

Instrumentation Scientist Intern

Design of a cavity icing system for a state-of-the-art ice nuclei counter, using LabVIEW as control software. I also discovered a manufacturing issue in the proposed main drift chamber and worked on a new design for the remainder of my tenure.

Exeter, UK

July 2011–Sept 2011

Certifications and Courses

National Physical Laboratory: Level 1 Instrumentation & Sensors Course

National Instruments: Certified LabVIEW Developer (expired 2016)

Coursera: The Data Scientist's Toolbox

Radio Society of Great Britain: Full amateur license

Organisations

IEEE: Student Member, Microwave Theory and Techniques Society

Radio Society of Great Britain: Registered assessor, and callsign holder of Surrey EARS club

Languages

English: Native

French: Basic

German: Basic

Skills

Electronic engineering, practical problem solving, technical writing and presenting, teamwork, RF design and simulation, programming (Python, Javascript, C++, VB.NET, R, VHDL), Linux systems administration, \LaTeX , web development, equipment maintenance and repair, power distribution, fabrication and prototyping, research, embedded systems, basic FPGA and SDR programming.

Interests

Open source hardware and software, STEM outreach, internet-of-things, amateur radio, live music and events, sailing, high-power model rocketry, real ale/home-brewing, steam railways.

References

Dr. Chris Christou:

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Dr. Andrew Smith:

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Publications

L. Stant, M. Salter, N. Ridler, D. Williams, and P. Aaen, "Propagating measurement uncertainty to microwave amplifier nonlinear behavioral models," *IEEE Trans. Microw. Theory Techn.*, [under review].

H. Votsi, L. Stant, M. Salter, C. Li, N. Ridler, and P. Aaen, "An interferometric characterisation technique for extreme impedance microwave devices," *IEEE Trans. Instrum. Meas.*, [under review].

M. Salter, L. Stant, K. Buisman, and T. Nielsen, "An inter-laboratory comparison of NVNA measurements," *2018 Integrated Nonlinear Microwave and Millimetre-wave Circuits Workshop (INMMiC)*, 2018.

L. Stant, P. Aaen, and N. Ridler, "Evaluating residual errors in waveguide VNAs from microwave to submillimetre-wave frequencies," *IET Microwaves Antennas Propag.*, vol. 11, no. 3, pp. 324–329, Feb. 2017.

L. Stant, P. Aaen, and N. Ridler, "Comparing methods for evaluating measurement uncertainty given in the JCGM 'evaluation of measurement data' documents," *Measurement*, vol. 94, pp. 847–851, Dec. 2016.

L. Stant, N. Ridler, and P. Aaen, "Evaluating residual errors in waveguide network analysers from microwave to submillimetre-wave frequencies," in *IET Colloquium on Millimetre-Wave and Terahertz Engineering & Technology 2016*. Institution of Engineering and Technology, Mar. 2016.