Samuel de Jong

408-1025 Meares St, Victoria BC, V8V 3J7
250 721 7735
srdejong@uvic.ca

Summary

Through six years of graduate school education and research, I have developed skills in:

- Creative problem solving and experimental design
- Developing detector systems and software to acquire and analyze data
- Quantitative analysis of large data sets
- Producing data visualizations using matplotlib and ROOT
- Programming and scripting with C++, python, and bash
- Collaborating with colleagues locally and internationally
- Presenting results at conferences and collaboration meetings
- Writing technical and academic documents

Experience

Detector Technologist, VISPA — Sept 2017 - Present

Work on various hardware projects, including ATLAS and Belle II. Maintaining the safety and cleanliness of the VISPA detector lab in the basement of the Elloit building. Developing and maintaining software to communicate with various devices

PhD Researcher, University of Victoria — Jan 2013 - May 2017

Designed, assembled, and commissioned thermal neutron detector system using tubes of helium-3 for the Belle II experiment. Developed and tested data acquisition system for helium-3 tubes. Oversaw deployment and operation of this detector system in Japan, and analyzed data recorded by them. Calibrated helium-3 tubes at UVic. Simulated helium-3 tubes and neutron source

MSc Researcher, University of Victoria — Sept 2010 - Aug 2012

Investigated a new technique in particle identification in gaseous detectors. Developed and tested algorithms to implement this new technique.

Laboratory Instructor, University of Victoria — Sept 2010 - Apr 2016

Instructed undergraduate students on proper laboratory technique and equipment use. Taught experiments in introductory physics, electricity and magnetism, and laboratory electronics. Evaluated student progress and graded lab reports.

Education

Doctorate in High Energy Physics, **University of Victoria** — May 2017
Thesis: "Thermal Neutrons in Phase I of Belle II Commissioning"
Advisor: Prof. Michael Roney

Masters of Science in High Energy Physics, **University of Victoria** — August 2012
Thesis: "Cluster Counting Studies in a SuperB Drift Chamber Prototype"
Advisor: Prof. Michael Roney

Bachelor of Science in Applied Physics with Mathematics minor, **Carleton University** — December 2009

Skills

Computing

Advanced Knowledge	C++, python, ROOT, Linux, Object Oriented Programming
Intermediate Knowledge	GEANT4, java, Excel, EPICS, Windows, ubuntu, SL6, bash, LaTeX, svn, git, Virtual Machines, jupyter, xml, Confluence, verilog, VHDL, quartus, ModelSim
Basic Knowledge	html, MATLAB, matplotlib, SQL, mathematica, MAC level ethernet

Hardware

Expertise in	Detector development, DAQ software development
Equipment	Caen, VME, NIM, Digitizers, Computer-Electronics interfaces, Power supplies, FPGA

Other

Particle Physics, Data analysis, Statistics, Public speaking, Problem solving, Collaborative research, Teaching

Conferences and Presentations

During my PhD studies, I travelled to the KEK lab in Tsukuba, Japan for meetings of the Belle II collaboration on five separate occasions, and presented remotely many other times. At these meetings, I presented the status of the project that I had been working on to colleagues and answered questions about my project.

Oral Presentation, Canadian Association of Physics Annual Congress (Ottawa, ON) 2016
Presented results of experiments conducted at the KEK physics lab in Tsukuba, Japan.

Oral Presentation, Winter Nuclear and Particle Physics Conference (Montreal, QC) 2012
Presented results of experiments conducted at the TRIUMF physics lab in Vancouver, BC.

Oral Presentation, Canadian Association of Physics Annual Congress (Calgary AB) 2012
Presented results of experiments conducted at the TRIUMF physics lab in Vancouver, BC.

Poster Presentation, University of Victoria (Victoria BC) 2011
Presented an introduction to the SuperB experiment.

Oral Presentation, Canadian Undergraduate Physics Conference (Edmonton AB) 2009
Presented a summary of studies I had done for my BSc Honours project.

Interests and Activities

Professional: Problem solving, Data analysis, Programming, Data acquisition systems, Hardware-software interface, Physics, Experimentation, Detector development, Simulation of detector systems, Research and development
Personal: Photography, Science Fiction, Travel