

## EXPERIMENTAL PHYSICIST

D-Wave Systems is developing an ambitious technology platform based on adiabatic quantum optimization. At the core of this technology is a programmable quantum Ising Spin system, comprising coupled rf-SQUID quantum bits and superconductor IC-based digital control logic. To realize our vision, D-Wave has put in place an advanced infrastructure that is unique in the world. This infrastructure includes:

- a large team of world-class scientists and engineers;
- an extensive cryogenic testing facility including five ultra-low temperature dilution refrigerators;
- a system engineering team for developing and building a state-of-the-art processor environment, delivering 200+ filtered lines to milliKelvin temperatures and capable of creating a magnetic vacuum (<1nT) over the sample space; and
- an advanced superconductor integrated circuit fabrication capability providing four niobium layers, 0.25 micron wire line width and spacing, deep sub-micron Josephson junctions, and levels of integration compatible with  $10^6$  Josephson junctions/cm<sup>2</sup>.

D-Wave is currently seeking an Experimental Physicist who will be responsible for solving problems arising in the design, development, and performance of advanced superconducting quantum optimization processors. This position requires working experience with superconducting devices and ultra-low temperatures. The successful candidate will work within our Processor Development group on design, test, and analysis of qubits and systems of qubits, design and implement experiments to debug and develop hardware, and help develop a code base for calibrating and operating our processors.

### Required Qualifications:

- Ph.D. in experimental physics
- Extensive experience working with superconducting devices and low temperatures
- Excellent software engineering skills
- Highly motivated to work with practical quantum computing systems
- Creative, energetic, self-motivated individual who can work effectively as part of an interdisciplinary team
- Able to work in a time-sensitive environment on a wide variety of problems
- Excellent communication skills

### Desired Qualifications:

- Experience in superconducting quantum computing and digital circuitry (such as SFQ logic)
- Experience with dilution refrigerators
- Experience working with low noise electronics
- Experience with LISP

Interested applicants should send a resume including references to [EP2009@dwavesys.com](mailto:EP2009@dwavesys.com). A current list of recent and past publications and preprints related to D-Wave's technology is available on our website at [www.dwavesys.com](http://www.dwavesys.com), under Publications in the Resources section.