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Superconductor IC Design Engineer

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^2.

D-Wave is seeking to expand its design team with a Superconductor IC Design Engineer, whose responsibilities will include design and layout of both analog and digital superconductor-based integrated circuits. Leveraging our advanced fabrication process, our Design Engineers must design and layout LSI circuits involving analog and digital components, develop and perform accurate parametric and performance modeling studies during project design phases to increase likelihood of success, and rapidly integrate feedback from test cycles to optimize circuit designs. The successful candidate will work within our Processor Development group.

Required Qualifications:

- Graduate degree in physics or engineering
- Extensive design experience with analog and digital technologies
- Demonstrated competence with professional CAD tools
- Demonstrated competence in performance and parametric modeling
- Excellent software engineering skills
- 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 analog or digital circuitry (such as SFQ logic) is strongly desired
- Experience with Cadence products and Cadence SKILL

Interested applicants should send a resume including references to SICDE2009@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, under Publications in the Resources section.