

Theory: Quantum Nanostructures for Quantum Information

Garnett Bryant

Quantum Measurement Division and Joint Quantum Institute

National Institute of Standards and Technology and University of Maryland

Gaithersburg, MD 20899-8423

The Quantum Metrology and Processes Group at the National Institute of Standards and Technology, Gaithersburg, in conjunction with the NIST/University of Maryland Joint Quantum Institute, has postdoctoral opportunities for theoretical research investigating quantum nanostructures for quantum information processing. Topics of current interest include: quantum coherent transport and spin dynamics in Si-based quantum dots and donor-qubit devices, the quantum optics of self-assembled quantum dots and quantum-dot molecules, novel quantum-dot nanocrystals, and correlated few-electron systems in these structures. Work will be done in the theory group of Garnett Bryant. Strong collaboration with on-going experimental programs at NIST and elsewhere investigating these systems will be an emphasis of this research project.

A theoretical background in atomistic device modeling plus quantum transport and/or quantum optics is highly desirable. If interested, please send a CV to Garnett Bryant at garnett.bryant@nist.gov. These opportunities are open until suitable applicants are found.