

# QUANTUM INFORMATION PROCESSING GROUP

## CRYOGENICS LAB



PUBLICATIONS

### TOM OHKI

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., physics, University of Rochester with Profs. Feldman and Bocko. Postdoctoral research, Chalmers with Prof. Herr.

@ **AT RAYTHEON:** Leads various programs related to superconducting materials studies for qubits and scaling superconducting quantum processors. Leads the cryogenic computing lab in the development and applications of superconducting devices for quantum information, microwave systems and digital technologies. Active research areas include superconducting quantum and classical computing, as well as superconducting devices hybridized with spintronic and 2-D materials.



PUBLICATIONS

### KC FONG

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., physics, Ohio State University; advisor Prof. Chris Hammel.

@ **AT RAYTHEON:** Researches the development of low-noise measurement techniques to explore quantum physics in mesoscopic systems and low-dimension materials such as graphene.



PUBLICATIONS

### DIEGO RISTÉ

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., applied physics, Delft University of Technology; studied in Prof. Leo DiCarlo's superconducting quantum circuits group.

@ **AT RAYTHEON:** Works on dynamic quantum control experiments, which use measurement results in real time for quantum computing and error correction.

## CRYOGENICS LAB (CONTINUED)



### ANDREW WAGNER

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., physics, Stanford University.

@ **AT RAYTHEON:** Works on the design, fabrication and measurement of novel superconducting circuits with applications including ultra-fast digital logic, quantum limited amplifiers and quantum computation.



### MATT WARE

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., physics, Syracuse University; studied under Prof. Britton Plourde; thesis work focused on sideband and cross-resonance interactions in superconducting qubit systems.

@ **AT RAYTHEON:** Works on instrumentation and measurement of superconducting quantum bit systems. Focus includes new qubit design, fabrication and packaging.

PUBLICATIONS



### LEONARDO RANZANI

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., electrical engineering, Politecnico di Milano.

@ **AT RAYTHEON:** Works on superconducting parametric amplifiers, Josephson and kinetic inductance-based, nonreciprocity in multi-pump parametric devices and miniaturized Purcell filters.

PUBLICATIONS



### GUILHEM RIBEILL

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., physics, University of Wisconsin-Madison; studied under Prof. Robert McDermott.

@ **AT RAYTHEON:** Works on the fabrication and measurement of qubits.

## CRYOGENICS LAB (CONTINUED)



### GRAHAM ROWLANDS

**EDUCATION HIGHLIGHTS:** Ph.D., University of California, Irvine; advisor Prof. Ilya Krivorotov; postdoctoral research at Cornell University; advisor Robert Buhrman.

**AT RAYTHEON:** Works on a project involving cryogenic complexity, which seeks to marry magnetic memories with SFQ superconducting logic schemes in order to facilitate energy efficient exascale computing.

PUBLICATIONS

## COMPUTER AND SOFTWARE ARCHITECTURE



### RICH LAZARUS

**EDUCATION HIGHLIGHTS:** Master's degree, systems and control engineering, Case Western Reserve University. Advisor Kenneth Loparo. Bachelor's degree, electrical engineering and biomedical engineering, Duke University.

**AT RAYTHEON:** Focuses on creating software that enables people to learn sophisticated skills or manage complex systems.

PUBLICATIONS



### STEVE LOWE

**EDUCATION HIGHLIGHTS:** Ph.D, mathematics, Massachusetts Institute of Technology.

**AT RAYTHEON:** Works on mathematical modeling and simulation.



### ROB MCGURRIN

**EDUCATION HIGHLIGHTS:** Master of Science, electrical engineering, Georgia Institute of Technology. Master of Science, engineering management, Tufts University.

**AT RAYTHEON:** Building an experimental framework for quantum electronics.



## THEORY



PUBLICATIONS

### HARI KROVI

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., physics, University of Southern California; studied under Prof. Todd Brun.

@ **AT RAYTHEON:** Works on quantum walk algorithms, Fourier analytic algorithms and adiabatic algorithms. Works on quantum communications, quantum key distribution and quantum imaging. Interested in implementations of quantum algorithms using superconducting qubits as well as implementations of communication and imaging schemes using quantum optics.



PUBLICATIONS

### BOULAT BASH

🎓 **EDUCATION HIGHLIGHTS:** Ph.D, computer science, University of Massachusetts, Amherst; advisor Prof. Don Towsley

@ **AT RAYTHEON:** Researches low-probability-of-detection/intercept (LPD/LPI) communications, quantum key distribution systems, and information-theoretic and signal-processing aspects of covert and secure communication.



PUBLICATIONS

### BORJA PEROPADRE-LOPEZ

🎓 **EDUCATION HIGHLIGHTS:** Ph.D. theoretical physics, UCM Madrid, Spain; postdoctoral researcher at Harvard University; advisor Prof. Alán Aspuru-Guzik.

@ **AT RAYTHEON:** Works on quantum optics and quantum computing with superconducting circuits.

## QUANTUM AND INTEGRATED OPTICS



### MOHAMMAD SOLTANI

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., optics and photonics, Georgia Institute of Technology. Postdoctoral training, Laboratory of Atomic and Solid State Physics, Cornell University.

@ **AT RAYTHEON:** Leads integrated nanophotonic research for classical and quantum applications in communications, microwave and radio signal processing, and sensing and imaging.

## BUSINESS AND PROGRAM MANAGEMENT



### PUBLICATIONS

## ZACHARY DUTTON

---

🎓 **EDUCATION HIGHLIGHTS:** Ph.D., theoretical physics, Harvard University, studied under Prof. Lene Hau. Post-doctoral fellowship at NIST-Gaithersburg with Dr. Charles Clark; previously staff physicist at Naval Research Lab.

@ **AT RAYTHEON:** Leads business strategy and operations for the Quantum Information Processing group. Research has focused on quantum enhanced optical remote sensing, quantum networks, quantum limited communication receivers and codes, superconducting quantum circuits and quantum computation.



## KATHRYN CARSON

---

🎓 **EDUCATION HIGHLIGHTS:** MBA, Boston College.

@ **AT RAYTHEON:** Manages the business of several government-funded research and development programs.



## JULIA STRANGIE-BROWN

---

🎓 **EDUCATION HIGHLIGHTS:** Bachelor of science, mathematics, University of Massachusetts.

@ **AT RAYTHEON:** Serves as the administrative assistant for the Quantum Information Processing group.