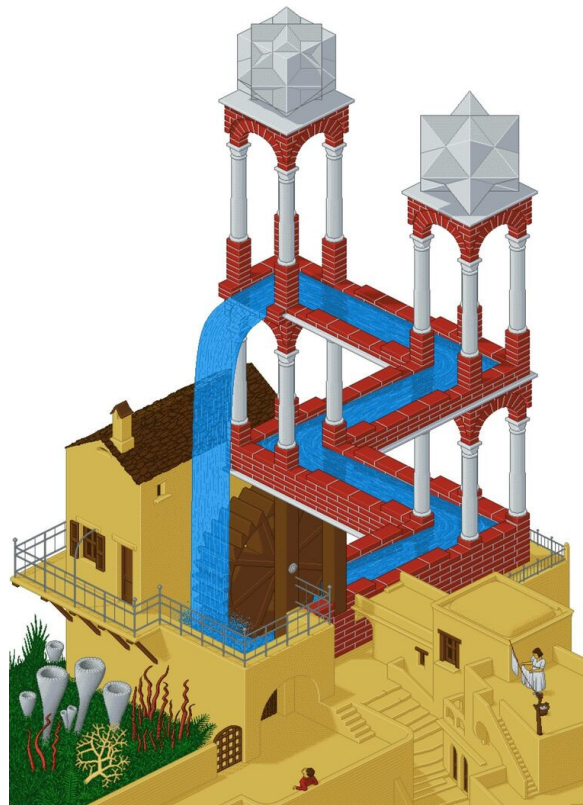


Feedback in Quantum Machines 2023



Photos by George Winstone

Nov 27th to Dec 1st 2023, Okinawa, Japan

Feedback control is used everywhere in today's current technologies - everyone that has noise cancelling headphones for example, uses feedback control to cancel out surrounding noise.

In quantum machines - feedback control has been studied theoretically for some years, but only recently has it become to be possible experimentally to develop these ideas. Researchers are now on the cusp of bringing advanced feedback techniques into quantum computing, quantum sensing, and quantum communications.

This meeting brings together theorists and experimentalists, from around the world to share their knowledge on quantum feedback control and advance its potential use in tomorrow's quantum machines.

This workshop is hosted by the Quantum Machines Unit in the Okinawa Institute of Science and Technology Graduate University, Japan.

Click here to register for FQM23!

Registrations close 14th July 2023 - STOP PRESS - Extension of deadline until 28th July. Spaces are limited, and will be allocated to provide a balance between theory and experiment, and experienced and early-career researchers.

If you have any queries, please email us at fqm23@oist.jp.

Workshop Chairs

Prof Jason Twamley - Head of the Quantum Machines Unit, OIST, Japan

Dr W. J. Munro - Head of the Quantum Engineering & Design Unit, OIST, Japan



Schedule and Program

All talks will take place on the OIST Campus in B250 - Sydney Brenner Theatre

Registration will start at 08:30am outside B250 on Monday Nov 27th

Schedule for the meeting - [HERE](#)

Long Talk Presenters and Titles - [HERE](#)

Short Talks Presenters and Titles - [HERE](#)

Poster Presenters and Titles - [HERE](#)

Speakers



Prof Kiyotaka Aikawa

Associate Prof at Tokyo Institute of Technology, Department of Physics - heading a group focused on the experimental physics of trapped particles.
[Link](#)

Research Interests: Trapped particles, ion traps, levitated motion, feedback cooling.
[ResearchGate](#)



Prof Thomas Busch

Professor at the Okinawa Institute of Science and Technology, Japan. Leading the Unit called Quantum Systems Unit - which focuses on theory of neutral atom quantum science
[Link](#)

Research Interests: Atom optics, quantum thermodynamics, strongly correlated quantum systems, many-body physics.
[Google Scholar](#)



Prof Andre Carvalho

Head of Quantum Control Solutions, Q-CTRL, Berlin, Germany
[Link](#)

Research Interests: Quantum Information, Quantum Control, Quantum Optics, Open Quantum Systems, Quantum Thermodynamics.
[Google Scholar](#)



Dr Richard Taylor (Substitute speaker for Prof. Andre Carvalho)

Senior Quantum Solutions Engineer at Q-CTRL
[Link](#)



Dr Areeya Chantasri

Department of Physics, Mahidol University, Thailand, with interest in the theory of quantum measurement, feedback, error correction
[Link](#)

Research Interests: Theory of quantum measurement science, open quantum systems, feedback, error correction
[Google Scholar](#)



Prof Aashish Clerk

University of Chicago, Chicago, USA, with interests in theoretical condensed matter, quantum optics and quantum information.
[Link](#)

Research Interests: Theory of quantum science of condensed matter systems, quantum optical systems, quantum information, quantum feedback, optomechanics etc.
[Google Scholar](#)



Prof Christopher Eichler

Prof Dr Christopher Eichler is head of Laboratory for Quantum Science and Technology at Friedrich-Alexander-Universität in Erlangen, Germany. He perform experiments on superconducting quantum information science and technology.
[Link](#)

Research Interests: Superconducting quantum hardware, quantum optics, quantum error correction, quantum feedback control
[Google Scholar](#)



Prof David Elkouss

Associate Professor at the Okinawa Institute of Science and Technology, Japan. Leading the Unit called Networked Quantum Devices Unit - which focuses on the theory of quantum communications and networks
[Link](#)

Research Interests: Quantum Information Science, quantum communications, quantum networks.
[Google Scholar](#)



Prof Fedor Jelezko

Prof Jelezko is the Director of the Institute for Quantum Optics, Universität Ulm, Albert-Einstein-Allee 11, 89069 Ulm, Germany. This institute focuses mainly on developing solid-state based quantum information processors.
[Link](#)

Research Interests: Study of diamond-based quantum optics and metrology with applications spanning from biochemistry to quantum information.
[Google Scholar](#)



Prof Hideo Mabuchi

Prof Mabuchi is a Professor of Applied Physics at Stanford University, USA. His lab focuses on developing optical quantum technologies.
[Link](#)

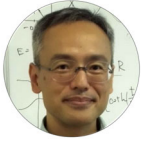
Research Interests: Quantum Optics, integrated optics, nonlinear optics, optical quantum computing, nanophotonics
[Google Scholar](#)



Prof Mazyar Mirrahimi

Prof Mirrahimi is the Director of Research at INRA and has a post at Laboratoire de Physique de l'Ecole Normale Supérieure, Ecole Normale Supérieure, MINES Paris, Université PSL, Sorbonne Université, CNRS, Inria, 75005 Paris. He is a theorist who has worked extensively on quantum information and feedback control.
[Link](#)

Research Interests: quantum measurement and feedback, quantum error correction, superconducting circuits
Google Scholar



Prof Yasunobu Nakamura

Prof Nakamura is a professor at the Department of Applied Physics, The University of Tokyo, Japan. He is also the Director of the RIKEN Center for Quantum Computing, Japan. He has contributed primarily to the area of quantum information science, particularly in superconducting quantum computing, microwave quantum optics and hybrid quantum systems.
Link

Research Interests: superconducting quantum technologies and quantum information science
Google Scholar



Prof Kae Nemoto

Professor at the Okinawa Institute of Science and Technology, Japan. Leading the Unit called Quantum Information Science and Technology Unit - which focuses on the theory of quantum information science
Link

Research Interests: Quantum Information Science, quantum computing, quantum communications
DBLP listing



Prof Franco Nori

Professor Nori is a Chief Scientist at RIKEN, heading the "Theoretical Quantum Physics Laboratory" at Riken, Saitama, Japan. And also affiliated with the Physics Department of the University of Michigan, Ann Arbor, USA
Link

Research Interests: Quantum science, quantum technology, quantum engineering
Google Scholar



Prof Hiroki Takahashi

Assistant Professor at the Okinawa Institute of Science and Technology, Japan. Leading the Unit called Experimental Quantum Information Physics - which focuses on experimental trapped ion-photon quantum technology
Link

Research Interests: Quantum Information, Trapped ions, Cavity QED, Photonics
Google Scholar



Dr Nora Tischler

ARC DECRA Fellow, Centre for Quantum Dynamics and Centre for Quantum Computation and Communication Technology, Griffith University, Brisbane, QLD 4111, Australia
Link

Research Interests: Quantum Optics, Nanophotonics, Quantum Sources of Light, Quantum Complexity, Quantum Memory Reduction
Google Scholar



Prof Hiroshi Yamaguchi

Prof Yamaguchi is a Distinguished Research Fellow at NTT, Japan. He works in the topic of nano-mechanics and semiconductors
Link

Research Interests:
Experimental nano-mechanics, semiconductor technologies.
Google Scholar

Code of Conduct

We are committed to making our workshops (workshop(s) organized by OIST, hereinafter "our workshop(s)") an inclusive space for sharing ideas and knowledge. We will not tolerate disrespectful communication, discrimination, harassment, or bullying in any form. As such, all participants attending our workshops are required to comply with this Code of Conduct. To provide all participants the opportunity to benefit from our workshops, we at OIST are dedicated to a positive, safe and harassment-free experience. Harassment in any form is specifically prohibited.

What is Harassment?

Harassment involves continued antisocial or unreasonable actions that violate a reasonable person's personal rights and/or dignity and cause mental suffering, and thus worsen the person's environment or make him/her anxious about participation. Behavior that is acceptable to one person may not be acceptable to another, so we ask that you use discretion to be sure that respect is communicated. Harassment intended in a joking manner nevertheless constitutes unacceptable behavior. Speech that is not welcomed or that is personally offensive, whether it is based on gender, age, sexual orientation, mental or physical disability, ethnicity, national origin, religion etc. will not be tolerated.

If you are being harassed, notice that someone else is being harassed, or have any other concerns, please bring this to the immediate attention of the organizers. If you wish to report an issue concerning the organizers, you can contact the Conference and Workshop Section directly and submit a confidential report by sending an email to workshop-codeofconduct@oist.jp or submitting a report through the webform. All complaints will be taken seriously and responded to by the Provost promptly. Confidentiality will be maintained to the extent that it does not compromise the rights of others. Individuals found in breach of this Code of Conduct will be dismissed from the workshop immediately. Retaliation for reporting harassment is also a violation of Code of Conduct, as is reporting an incident in bad faith.

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