

Session Program

7-12 Jul 2024

Early Career Conference in Trapped Ions (ECCTI) 2024

Poster session

Viktor-Franz-Hess Haus, Hörsaal B (Technik)
Technikerstraße 25a, 6020 Innsbruck, Austria

Monday 8 July

16:30

Poster session

Session | **Location:** Viktor-Franz-Hess Haus, Hörsaal B (Technik), Technikerstraße 25a, 6020 Innsbruck, Austria

16:30-16:32

Beam-transport simulations for antihydrogen production with the GBAR experiment at CERN

Speaker

Sarah Geffroy

16:32-16:34

Spectral signatures of vibronic coupling in trapped cold atomic Rydberg systems

Speaker

Dr Joesph William Peter Wilkinson

16:34-16:36

Towards frequency comb Raman spectroscopy for quantum logic

Speaker

Elyas Mattivi

16:36-16:38

Towards large scale quantum computing - a many qubit ion trap at room temperature

Speaker

Philip Leindecker

16:38-16:40

A compact He-buffer-gas-cell ion source for delivery of $^{229}\text{Th}^{3+}$ ions into a cryogenic Paul trap

Speakers

Dr Markus Wiesinger, Georg Holthoff

16:40-16:42

Towards a network of $^{43}\text{Ca}^+$ optical clocks for entanglement-enhanced metrology

Speaker

Ayush Agrawal

16:42-16:44

Optical integration with femto-second laser written waveguides

Speaker

Marco Schmauser

16:44-16:46

Towards a Novel Fiber Based Cold Atom Source For Trapped-Ion Experiments

Speaker

Jolan Tissier

16:46-16:48

A scalable photon interface for trapped-ion qubit registers

Speaker

Marco Canteri

16:48–16:50

High-precision mass measurements on highly charged ions with the PENTATRAP Penning-trap experiment**Speaker**

Jan Nägele

16:50–16:52

Quantum technologies with trapped electrons**Speaker**

Anna Migó

16:52–16:54

muCool: High brightness ultra-cold positive muon beam**Speaker**

Joanna Peszka

16:54–16:56

The NQCC's Trapped Ion Team - technology development towards scalable quantum computing**Speaker**

Georgina Croft

16:56–16:58

Antihydrogen formation using a slow merge mixing scheme in ASACUSA's Cusp trap**Speaker**

Marcus Bumbar

16:58–17:00

Phase noise in a 729 nm laser system**Speaker**

Luka Milanovic

17:00–17:02

Microfabricated quantum processor unit with integrated optics**Speaker**

Jakob Wahl

17:02–17:04

Multiplexing of the Transport Through an X-Junction Ion Trap**Speaker**

Janina Bätge

17:04–17:06

Estimating the dynamical error map of single-qubit gates under non-Markovian phase noise**Speaker**

Alex Steiner

17:08–17:10

Investigation of Plasmas in a Penning-Malmberg Trap for Gabor lens development**Speaker**

Poram Ruksasakchai

17:10–17:12

An end-cap Paul trap for precision spectroscopy**Speaker**

Akhil Ayyadevara

17:12-17:14 **Controlling the spontaneous emission of multiple trapped ions**

Speaker

Tommaso Faorlin

17:14-17:16

Designing Robust RF Junctions for Register-Based Trapped-Ion Quantum Processors

Speaker

Florian Ungerechts

17:16-17:18 **Cavity assisted ion-photon entanglement**

Speaker

Ian Ford

17:18-17:20

Building a cryogenic quantum computing demonstrator based on trapped ions

Speaker

David Christoph Stuhmann

17:20-17:22

Imaging System Design for Trapped Ion Quantum Computing Demonstrators

Speaker

Radhika Goyal

17:22-17:24

Precision improvements for laser spectroscopy of anti-hydrogen in the ALPHA experiment

Speaker

Virginia Rose Marshall

17:24-17:26

Software Framework For Automated Calibration Of A Trapped-Ion Quantum Computer

Speaker

Mr Andreas Conta

17:26-17:28 **High-Q room-temperature electron-ion Paul traps**

Speaker

Niklas Vilhelm Lausti

17:28-17:30 **Sub-Doppler cooling for ion-based qubits**

Speaker

Katya Fouka

18:45

Tuesday 9 July

17:00

Poster session

Session | **Location:** Viktor-Franz-Hess Haus, Hörsaal B (Technik), Technikerstraße 25a, 6020 Innsbruck, Austria

17:00-17:02 **D-5/2 to P-3/2 spectroscopy on a single trapped Ba-138 ion**

Speaker

René Munk Thalund

17:02-17:04

Microfabrication of surface ion traps for operation with Strontium Rydberg ions

Speaker

Simon Schey

17:04-17:06

Deployable ion trap quantum network node

Speaker

Pascal Wintermeyer

17:06-17:08

Advancements in the cryogenic apparatus design for trapped ion quantum computing within the ATIQ project

Speaker

Tobias Pootz

17:08-17:10

Industrially microfabricated 3D ion traps for quantum information processing and metrology

Speaker

Max Glantschnig

17:10-17:12

State-preparation and quantum control of polyatomic molecular ions

Speaker

Nanditha Sunil Kumar

17:14-17:16

Twenty-zone surface ion trap with fully integrated photonics

Speaker

Tereza Viskova

17:16-17:18

Towards a two-dimensional ion crystal immersed in an ultracold atomic cloud

Speaker

Naoto Mizukami

17:18-17:20

Enhancing Robustness in Ion Trap Quantum Logic through Optimal Control of Two-Qubit Operations

Speaker

Kanika Kanika

17:20-17:22

Towards large scale quantum computing - a many qubit ion trap at room temperature**Speaker**

Paul Venetz

17:22-17:24

Towards state preparation, readout, and control of polyatomic molecular ions using quantum logic spectroscopy**Speaker**

Mariano Isaza Monsalve

17:24-17:26

Demonstration of 2D connectivity for a two-dimensional ion trap architecture**Speaker**

Marco Valentini

17:26-17:28

Floquet-Gibbs states in laser-driven atomic systems**Speaker**

Wilson Santana Martins

17:28-17:30

Design and Implementation of a Microwave-Based Rubidium Atomic Clock System**Speaker**

Ms Shaleena Jayaram

17:30-17:32

Towards a high fidelity two-qubit state manipulation and readout using the ARTIQ Phaser and Grabber Modules.**Speaker**

Tobias Maddock

17:32-17:34

Fabrication of ion trap microchips with advanced features for trapped ion quantum computing**Speaker**

Vijay Kumar

17:34-17:36

Progress towards a fault tolerant microwave-driven two qubit quantum processor utilizing Bayesian statistics for state determination**Speaker**

Alexander Onkes

17:36-17:38

Trapped and cooled 88Sr^+ ions in a cylindrical potential provided by a micro-fabricated ring trap**Speaker**

Lilay GROS-DESORMEAUX

17:38-17:40

Stopping and Trapping of Radioactive Isotopes for Precision Experiments (STRIPE)

Speaker

Phillip Imgram

17:40-17:42

Towards a Scalable Logical Qubit: Yb and Ba Ion Toolkit**Speaker**

Parsa Rahimi

17:42-17:44

Integrated photonics in trapped ion quantum computing**Speaker**

Dr Carmelo Mordini

17:44-17:46

Towards improvements in quantum networks using Fiber Fabry-Perot (FFP) microcavities**Speaker**

Roberts Berkis

17:46-17:48

Controlling trapped-ion qubits with microwave near-fields and a stimulated-Raman laser system**Speaker**

Emma Vandrey

17:48-17:50

Design and development optimization of X junctions for three dimensional segmented ion traps**Speaker**

Santiago Emilio Bogino

17:50-17:52

A Ti:Sapph laser system for the state-selective preparation of nitrogen ions**Speaker**

Amber Shepherd

17:52-17:54

Development of the antiproton trap for the GBAR experiment**Speaker**

Byungchan Lee

17:54-17:56

Phase sensitive modified cyclotron frequency measurements with single trapped antiprotons**Speaker**

Philip Geissler

17:56-17:58

Hybrid Penning-Linear-Paul trap for ion recapture in a near-zero bias magnetic trap for hydrogen/antihydrogen spectroscopy**Speaker**

Levi Oliveira De Araujo Azevedo

17:58-18:00

Distributed quantum sensing in noisy environments with trapped ions

18:45

Speaker
James Bate