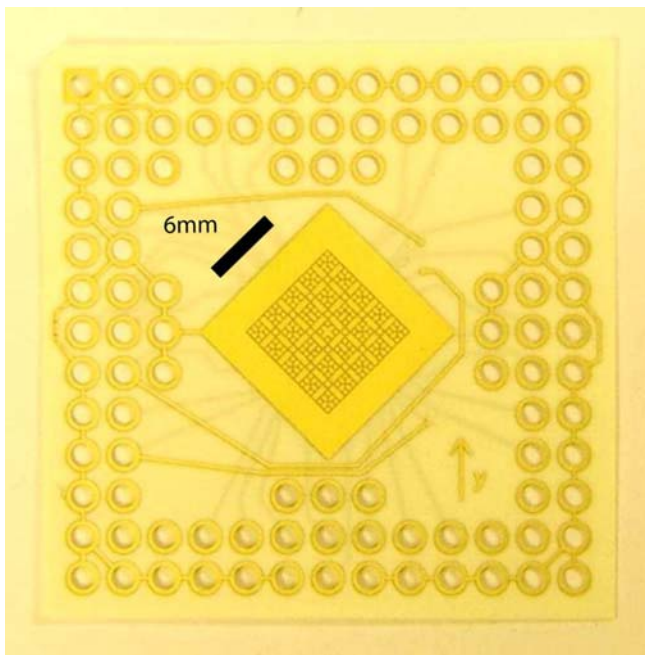


Post Doctoral Position: Scalable Ion Traps
Group of Prof. Blatt
University of Innsbruck, Austria.

We are currently looking to fill a Post Doctoral position on the Cryotrap Project. The main aim of this project is to take the great advances made in trapped ion quantum computing and make it scalable to more ions, in more dimensions.

While we are able to entangle up to 14 ions, traditional Paul traps are reaching the limits of what they are able to do. The Cryotrap Project currently focuses on trapology - how do we need to make traps differently from the traditional macroscopic, mechanically machined Paul traps in order to improve scalability? This requires, for example, the traps to be made smaller (to allow faster gate times), to be made colder (to circumvent the increased heating from making them smaller), to be segmented (to allow many trapping regions within a single device), and to create arrays (to allow more varied interactions that are possible in a 1 dimensional chain).



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The experiment is one of the most interdisciplinary efforts in the group; it requires not only an understanding of the usual tools for quantum information processing, but also of micro fabrication methods, surface physics, cryogenics, RF electronics, and so on. Applicants with a background in quantum optics are welcome, though we will also consider Applicants with other relevant backgrounds.

Interested candidates should forward a copy of their CV and the contact details of 3 References to Mike Brownutt (Michael.Brownutt@uibk.ac.at).