PhD student position

In the group *Quantum Gases and Quantum Information* at the University of Amsterdam we have an experimental PhD position available for the project:

**Ordered Rydberg atoms on a chip**

This experimental project aims to induce quantum correlations and entanglement in a gas of ultracold rubidium atoms, by exploiting the strong interaction between Rydberg atoms. This research brings Rydberg physics together with atom chips and lattices (both optical and magnetic). Ultimately, the perspective is the development of a novel and scalable platform for quantum simulation and quantum information science.

The experiments will be performed in an existing setup based on an atom chip that is used to produce extremely elongated Bose-Einstein condensates. We are looking for enthusiastic candidates who work well in a team and who enjoy operating a complex experimental setup involving multiple lasers, optics, electronics, computer control and ultrahigh vacuum. The project builds on the existing atom-chip and Rydberg-physics expertise in the group of dr. R. Spreeuw, dr. N.J. van Druten, and prof. H.B. van Linden van den Heuvell. We are part of the Institute of Physics located in the modern facilities at Amsterdam Science Park. Nanofabrication facilities for the atom chips are available both locally and on the national level. Our group leads the national FOM program “Rydberg atoms on a lattice”, and is a partner in the European network RySQ, fostering strong collaboration among the partner (Rydberg) groups.

Employment is by the FOM foundation including the corresponding employee benefits. Applications should include your statement of research interests and motivation, curriculum vitae, and names and e-mail contacts of references. Send your application, or request for more information to dr. N.J. van Druten ([n.j.vandruten@uva.nl](mailto:n.j.vandruten@uva.nl)) or dr. R. Spreeuw ([r.j.c.spreeuw@uva.nl](mailto:r.j.c.spreeuw@uva.nl)).

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