

Brief curriculum vitae

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Position: Senior scientist
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Education and positions held:

1983-1992 Alexander-von-Humboldt Gymnasium, Constance
1992-1997 Study of physics at the university of Constance
1994-1995 One year of study in Grenoble, France
1997-1998 “Diplomarbeit” on Bose-Einstein condensation in the group of Gerhard Rempe. During this work the first condensate of ultracold gases outside the United States was produced.
1998-2002 PhD thesis on the subject “Mixtures of ultracold gases: Fermi sea and Bose-Einstein condensate of lithium isotopes” under the direction of Christophe Salomon at the laboratoire Kastler-Brossel of the Ecole normale supérieure in Paris. The main results of this work are the production of a Bose-Einstein condensate immersed in a degenerate Fermi sea and the generation of matter-wave solitons. Both results were new and opened exciting possibilities for the future of this research direction.
2002-2004 Postdoc in the lab of Mark Raizen at the University of Texas at Austin. Involvement in three experiments: building of an optical tweezer microscope to study the influence of a dipole trap on the growth of neurons, setting up a new Rb BEC machine and helping to advance a Na BEC machine. The main result of this work was the implementation of a novel optical dipole trap which permitted to produce a single 1D BEC axially confined in a boxlike potential. Together with single atom counting capabilities this permitted us to produce samples of an

average of ~ 20 atoms with sub shot noise atom number fluctuations, a first step towards the preparation of a single atom in the ground state of a dipole potential, which would have applications in fundamental research and quantum computation.

2004-today

Senior scientist at the institute of quantum optics and quantum information of the Austrian academy of sciences in Innsbruck in the group of Rudolf Grimm. Currently we are setting up a system to explore mixtures of degenerate quantum gases, especially the BEC-BCS crossover of a Lithium-Potassium mixture.