Andreas Poppe
Austrian Research Centers – ARC

Andreas Poppe studied communication engineering at the **Vienna University of Technology**. He wrote his diploma thesis on the "Stability measurements of short pulsed lasers" in 1996. For his PhD thesis he successfully implemented the first experimental direct access to the electric field of short laser pulses, especially the carrier-envelope-phase. He built up a high power laser oscillator with low repetition rate to extend the field of nonlinear optics to oscillators as well as a frequency comb setup together with the group of Prof Hänsch (Nobel laureate in 2005).

At the **spin-off company FEMTOLASERS** he further developed the high power oscillator towards a commercial product being sold several times to explore new nonlinear effect in optics.

Back in basic research, Andreas joined the quantum cryptography project at the Institute of Experimental Physics - **University of Vienna** - headed by Prof. Zeilinger. In April 2004, the major breakthrough was the first demonstration of a quantum cryptographic secured bank wire transfer. At the same time he managed to build up a small research group with the financial support of the Austrian Research Centers, the EU FP6 integrated project SECOQC, a translational project of the FWF and internal university projects. Together with his team he worked towards long distance, high-secure quantum key distribution with entangled photons at telecommunication wavelength. Especially the translation from basic research to a fully automated QKD-setup integrated in racks ready for field tests have been achieved.

From 2008 on, Andreas changed to **Austrian Research Centers - ARC** to be part of the final common efforts to build up a full quantum network. Besides his work for the network integration and deployment, he is responsible to organize the SECOQC QKD network demonstration and conference. This event will be a clear sign of the state-of-the art of this new technology.

Further research interests lie in the broad field of nonlinear optics and the corresponding applications like wavelength conversion and high-harmonic generation.