Dear all,

On **Wednesday, 29th January 2020, 10:00 am**
Small Lecture Hall, MPQ

Dr. Sergei Pyatchenkov
Van der Waals-Zeeman Institute, Institute of Physics, University of Amsterdam,
Science Park 904, 1098 XH Amsterdam, The Netherlands

will present a talk on:
"**Ultracold strontium and thulium apparatuses: from construction to new tools for quantum simulation**"

Abstract:
Ultracold quantum gases are an outstanding platform for investigating a broad spectrum of questions in quantum physics, particularly in the fields of quantum simulation and computation. In my talk I will focus on the development of two new apparatuses for producing ultracold gases of strontium and thulium. The new experiments are aimed at using the unique properties of these elements to explore the field of quantum simulation. Strontium, an alkaline-earth element, has narrow intercombination lines, metastable excited electronic states, and ten collisionally-stable SU(N)-symmetric nuclear spin states. Thulium is a rare earth element, a new species in the family of ultracold atoms, which has a favorable energy level structure for laser cooling, a large magnetic moment of 4 Bohr magnetons and an ultranarrow optical clock transition. To exploit the remarkable atomic properties of strontium we integrated into the apparatus a high resolution imaging system, which enables the detection and manipulation of single atoms in optical tweezers and ultimately will lead to a quantum gas microscope

On behalf of Thomas Udem you are cordially invited to attend this talk.

Best regards,
Ingrid Hermann