Title: Muon Electron Scattering at NNLO

Abstract: In the first part of my talk I will give an introduction to the recently proposed experiment MUonE, which plans to measure the running of the electromagnetic coupling in the space-like region via muon electron scattering. This measurement provides direct sensitivity to the leading-order hadronic contribution to the muon g-2, which is a major source for the theoretical error of g-2. On the theoretic side the anticipated precision of this measurement requires the next-to-next-to-leading order computation of muon electron scattering, whose status I will review in the second part of my talk. Especially I will focus on the computation of the virtual amplitudes, which will involve a variety of newly developed techniques, like the canonical form for differential equations and adaptive integrand reduction techniques.