**Speaker:** Vesselin Dimitrov

**Title:** A new perspective on Lindemann–Weierstrass

**Abstract:** The Diophantine theories of the complex and the $p$-adic exponential function are not particularly similar. In the complex domain, the Lindemann–Weierstrass theorem founded the proper subject of algebraic independence theory. However, in the p-adic domain, the corresponding statement has been considered virtually as inaccessible as the broader Schanuel conjecture, with the best general partial result (due to Nesterenko) on the algebraic independence theory of $p$-adic exponentials at algebraic arguments matching precisely with a corresponding theorem (due to Roy and Waldschmidt) towards the structural rank conjecture on the algebraic independence of logarithms, whether complex or p-adic. In this seminar, I will explain how we may treat the classical and the $p$-adic Lindemann–Weierstrass statements on an equal footing. This is achieved with the concept of quantitative arithmetic holonomy bounds, now extended over to the more general Gevrey arithmetic classes of holonomic functions, in a next continuation of the joint project with Calegari and Tang.