SFB Colloquium Series

It is a pleasure to announce a guest lecture with the title

On two Problems Concerning the Laurent Stieltjes Coefficients of Dirichlet L-Series

SPEAKER: **Sumaia Saad Eddin**, Université des Sciences et Technologie de Lille
TIME: Wednesday, 19th March 2014, 10:15 - 11:45 AM
LOCATION: Mechatronik - Science Park, MT 327, University Linz

The Laurent-Stieltjes constants $\gamma_n(\chi)$ are, up to a trivial coefficient, the coefficients of the Laurent expansion of the usual Dirichlet L-series : when χ is a non-principal, $(-1)^n\gamma_n(\chi)$ is simply the value of the n-th derivative of $L(z, \chi)$ at $z = 1$.

The interest in these constants has a long history (started by Stieltjes in 1885). Among the applications, let us cite: determining zero-free regions for Dirichlet L-functions near the real axis in the critical strip $0 \leq \Re(z) \leq 1$, computing the values of the Riemann and Hurwitz zeta functions in the complex plane and studying the class number of the quadratic field, etc. In this talk, I will give explicit upper bounds for the Laurent-Stieltjes constants in the following two cases:

- The character χ is fixed and the order n goes to infinity.

- The order n is 0 and the modulus q goes to infinity.

The lecture will be followed by a general discussion