WYKŁAD WYDZIAŁOWY

w ramach seminarium

ARYTMETYCZNA GEOMETRIA ALGEBRAICZNA

(organizatorzy: Grzegorz Banaszak, Piotr Krasoń)

Środa **1 marca 2017**, godz. **10:30**, sala **A1-33**

Wydział Matematyki i Informatyki UAM w Poznaniu

Prof. Preda Mihailescu

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Improved, explicit estimates for the error term for the Dedekind zeta-function

(joint work with Korneel Debaene)

Streszczenie:

The residuum of the Dedekind zeta-function at $s = 1$ is one of the masterpieces classical analysis and is gained by means of a nice combination of geometry of numbers, algebra and analysis. In the same context the following important function is estimated: Let K be a number field, A an ideal class of K and $t > 0$. Then $j_K(A, t) =$ Number of ideals in A, which have norm less than$t$.

The estimate of this function ends in most text books after noting that $j(A, t) = O(t^(1 - 1/n))$, where $n = [K : Q]$. Recently (2009) Murty et.al. have made the classical implicite estimates concrete, obtaining an extravagantly high bound for $j(A, t)$. Debaene has generalized recently an idea used by W. Schmidt for the case of quadratic fields K, and I contributed with some new ideas at improving the resulting bounds. The purpose of the talk is to present these results and the principal ideas used.