1104-52-86 **Mateusz J Michalek*** (`wajcha2@poczta.onet.pl`), Zapolskiej 42 m 83, 30126 Krakow, Poland.
Numerical properties of lattice polytopes.

In our talk we address properties of numerical invariants of a lattice polytope P and its dilations. These include μ_{idp} - the smallest number such that nP is normal for $n \geq \mu_{idp}$ and μ_{Hilb}, the highest degree of the Hilbert basis element of the cone over P.

There are well-known inequalities among such invariants, e.g. $\mu_{idp} \leq \dim P - 1$. In our talk, we would like to present results with number theoretic flavor. For example, there exists a polytope P with $\mu_{Hilb} = n$ and $\mu_{idp} = 2$ if and only if n is a prime number.

We present a construction, through lattice segmental fibrations due to Beck, Delgado and Gubeladze, that allows to present polytopes with very special numerical properties. In particular, we answer several open questions concerning μ_{idp} of very ample polytopes and their gap vectors. These results are from a joint work with Michał Lasoń. (Received August 22, 2014)