Monday, May 14\textsuperscript{th} at 4:30 PM

In Room AAC 006

To be followed by discussion

\textbf{“How Many Points can be Reconstructed from k Projections?”}

\textbf{Jiri Matousek}

(Prague)

Target audience: doctoral students, researchers and Professors in Mathematic.

Abstract:

Let A be an n-point set in the plane. A discrete X-ray of A in direction u gives the number of points of A on each line parallel to u. We define $F(k)$ as the maximum number $n$ such that there exist $k$ directions $u_1,\ldots,u_k$ such that every set of at most $n$ points in the plane can be uniquely reconstructed from its discrete X-rays in these directions. We establish a mildly exponential lower bound $F(k) > 2^{((k/2)^{1/3})}$. (Joint work with Ales Privetivy and Petr Skovron)