JEAN-PIERRE GABARDO, McMaster University
Self-affine scaling sets in $\mathbb{R}^2$.

Let A be an $n \times n$ integral expansive matrix with $|\det A| = 2$. A measurable set K is called an A-dilation scaling set (resp. MRA scaling set) if $Q = BK \setminus K$ is an A-dilation wavelet set (resp. MRA wavelet set), where $B = A^t$. In this talk, we give a complete characterization of all two dimensional A-dilation scaling sets K such that K is at the same time a self-affine tile associated with B, i.e. K satisfies $BK = K \bigcup (K + d)$ for some $d \in \mathbb{R}^2$. In addition, we show that all such scaling sets must be MRA scaling sets.This is joint work with Xiaoye Fu.