On the fractional parts of the roots of a real number

Date Tuesday, January 24

Time 3:30 pm

Location 317 Mudd

Abstract: For $x > 1$, we define the function the arithmetic function $M_x(n) = [1/x^{1/n}]$, where $[t]$ denotes the integer part of the real number t. This function $M_x(n)$ is eventually increasing, and $lim_{n\to\infty} M_x(n)/n = 1/logx$. Moreover, $M_x(n)$ is "linearly periodic" if and only if $logx$ is rational. Other results and problems concerning the function $M_x(n)$ are discussed, including some curious relations with continued fractions.