Mean energy expenditure for ant foraging $(exp(.1/S) + distance^2)$ from noisy memory vector back to the nest at different noise levels S (n=1000) 10^{45} 10³⁹ 10^{33} **Energy Expenditure** 10²⁷ 10²¹ 10¹⁵ 10⁹ 10^{3} 10^{-3} 10^{-2} 10^{-1} 10⁰ 10^{1} 10^{2} 10^{3} Standard Deviation as Noise (mm)