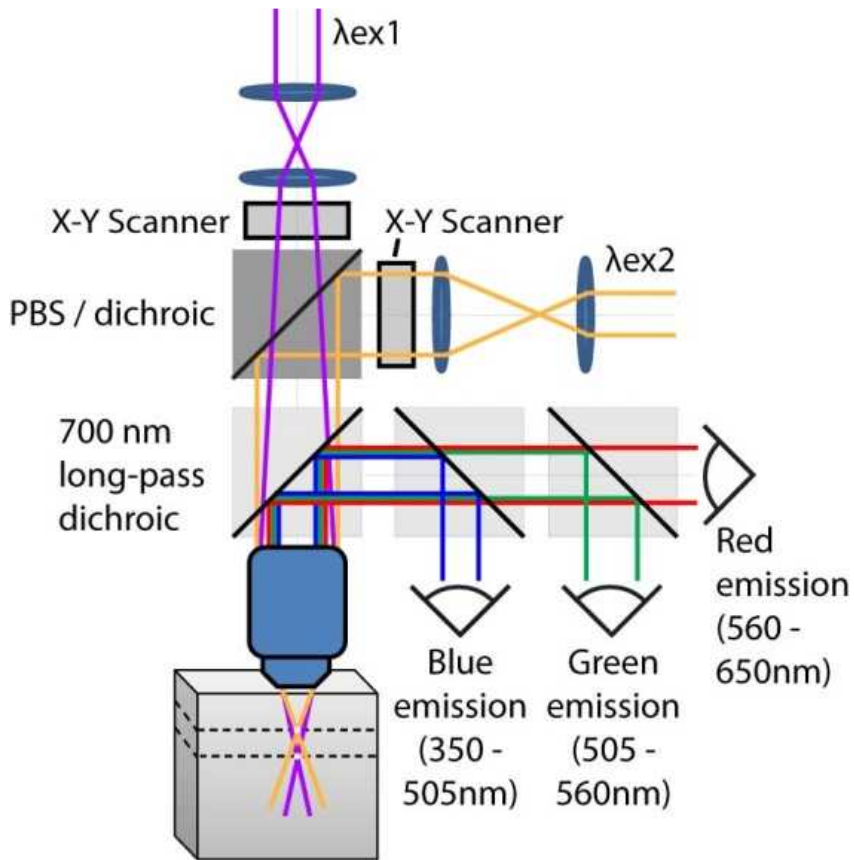
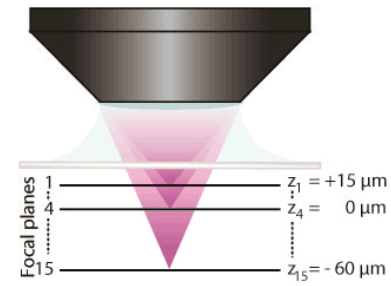


Supplemental Figure 1:



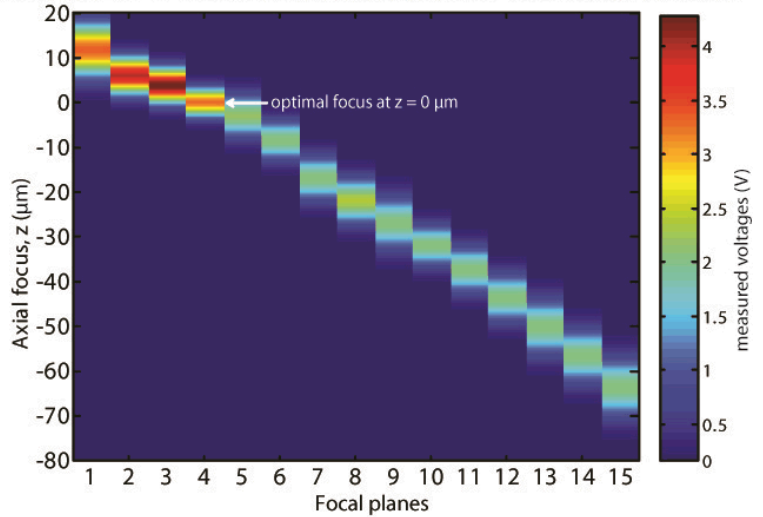
Supplemental figure 2:



Full width at half maxima of the intensity profiles shown:

Focal plane	1	2	3	4	5	6	7
FWHM(μm)	8.8	6.6	6.2	5.0	7.6	7.1	7.9
	8	9	10	11	12	13	14
	8.5	8.7	7.5	9.2	9.0	9.8	10.5

Axial intensity profiles of 1 micron beads at varying lens telescope separations



Shallow (planes 1-3) and deep (planes 5-15) focal planes correspond to converging and diverging light entering the objective, respectively. The first lens in the lens telescope located before beam combination (see Figure 1) was translated $\sim 25\text{mm}$ to create focal planes 1-15. The focal lengths of both lenses in the telescope were 30mm .