

## Survey on Small Scale Technology for BME

### Introduction

Micron and nano scale technologies are of interest because they allow for engineering opportunities and abstractions that require many small components to be actualized. For example, the average human neuron is on the order of tens of microns [1]. This makes the design of neural interfaces more complicated because small objects form deeply connected networks. DNA and other biological structures exist at nanometer scale [2, 3].

### References:

1. Shapson-Coe A, Januszewski M, Berger DR, et al. A petavoxel fragment of human cerebral cortex reconstructed at nanoscale resolution. *Science*. 2024;384(6696):eadk4858. doi:10.1126/science.adk4858
2. Alberts B, Johnson A, Lewis J, et al. *Molecular Biology of the Cell*. 4th edition. New York: Garland Science; 2002. Chromosomal DNA and Its Packaging in the Chromatin Fiber. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK26834/>
3. Yang W, Yuste R. Brain maps at the nanoscale. *Nat Biotechnol*. 2019 Apr;37(4):378-380. doi: 10.1038/s41587-019-0078-2. PMID: 30872818; PMCID: PMC7053416.