

Project Title: Development of a 4D micro/nano scale particle tracking microscope and its applications in bacterial dynamics

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As we enter the era of quantitative biology, there is an ever increasing need in developing tools that quantify dynamic events at micro and nano meter scales. The biofluidics lab has pioneered a 4D micro and nano scale particle imaging technique (See <http://biofluidics.mae.cornell.edu> for more details), and would like to involve 2-3 undergraduate students to apply this technique for the studies of hydrodynamics in swimming bacteria.

Desired knowledge and skills: Fluid mechanics, Imaging, Programming in MatLab, C/C++, Micro and nano machineries in nature.