

Prof. Alexander Mikheyev

Title: Opportunities for microfluidics in DNA sequencing

Much of molecular biology is done by hand. There is a minimum volume a human can manipulate. As a result many laboratory tools have not changed in decades, and reactions are performed in a microliter volumes. However, many of the enzymes used in molecular biology have evolved to operate at much lower volumes and much higher concentrations. Microfluidics have the potential to extend the repertoire of molecular biology, allowing the processing of novel types of samples, and to explore different types of reaction. My lab has been particularly interested in using microfluidics for the preparation of libraries for next generation sequencing. In this talk I will review some developments in the field, and prospects for future applications.