

세미나

발표주제	Microfluidic Polyacrylamide Gel Electrophoresis Enables High-performance Biomolecular Separation and Detection
발표내용	<p>Microfluidic Polyacrylamide Gel Electrophoresis (μPAGE) is a microscale electrokinetic separation technique for biomolecules such as proteins and nucleic acids. Microfluidic electrophoresis affords rapid, high-resolution separation with minimal sample and reagent consumption. Polyacrylamide gel (PAG) is an excellent molecular sieve that improves separation efficiency for electrophoresis. In addition, the PAG can be photopatterned in various forms and functionalized with various moieties including protein, nucleic acids, micro/nanoparticles, and buffers for bioassays. Sensitive and rapid biomolecular analysis can be achieved by combining electrophoresis and functionalized PAG. A few recent research results on μPAGE and other relevant methods that were conducted in the BNML (BioNanofluidics and Microfluidics Laboratory) at Myongji University will be discussed in this talk. These include (1) microfluidic Western blotting (μWB), (2) zinc-finger-based ssDNA detection using microfluidic electrophoretic mobility reversal assay (MEMRA), and (3) microfluidic isoelectric focusing with capacitively-coupled contactless conductivity detection (μIEF-C4D).</p>