세미나 초록

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발표 주제	**Toward high-resolution flexible and stretchable nanocrystal-based light-emitting diodes**
발표 내용	As next-generation electronic devices increasingly demand highly efficient and high-definition displays with flexible and deformable form factors, the development of nanocrystal (NC)-based light-emitting diodes (LEDs) has become a critical issue. Despite the intrinsic advantages of quantum dots (QDs) and perovskite nanocrystals (PeNCs)—such as high photoluminescence quantum yield, broad color gamut, and excellent color purity—progress in creating high-definition R, G, B subpixel patterns and efficient LEDs has been limited. In this presentation, we will discuss high definition and highly efficient nanocrystal based LEDs via transfer printing method. The transfer printing method ensures the close packing of nanocrystals, significantly reducing leakage current and boosting the external quantum efficiency. Furthermore, we explore the development of ultrathin and stretchable patterned LEDs using this innovative approach, demonstrating their potential for applications such as multicolor electronic tattoos. These deformable NC-based LEDs are poised to play a pivotal role in next-generation form factor displays, surpassing foldable and rollable technologies.