

**(Unconventional Plasmonic Nanostructures  
engineered @ Interfaces)**

\*

(twkang@sogang.ac.kr\*)

Nanoplasmonic architectures have attracted significant interest as promising candidates for various applications including catalysis, energy, environmental monitoring, biology, chemistry, and medicine. However, their practical applications still require solving a few critical problems: (1) the rational design and scalable synthesis of unconventional nanoarchitectures with a better performance, (2) active control of nanostructure's motion and orientation, and (3) efficient integration of nanostructures into functional optical, electrical, or microfluidic devices. In order to address these issues, our group has been interested in a wide variety of interfaces in nature where many complex structures are spontaneously produced by a delicate control over chemical and physical processes (e.g., biomineralization). In this talk, I would like to introduce bioinspired engineering synthesis technology by uncovering hidden treasures in the nature of various interfaces. The findings that both facile and scalable synthesis of complex nanoparticles and achieve active control of nanoparticle's position and orientation are possible by exploiting bioinspired interfaces such as oil/water and water/polymer interfaces are also highlighted.