Theme : New Quantum Dot

- Sub Theme : QD of New Structure & Composition

Quantum dots (QDs) is one of the most attractive light-emitting materials for the display applications. QD TV is the widespread practical application providing high color purity, which apply the color converting sheet containing green and red QDs on LCD blue backlight. For the next stage of QD display, we need to break through in the structure and composition of QDs with light absorption, stability and spectrum width.

We are aiming to find new QDs having superior properties to the well-known QDs as like wider or lower bandgap, higher absorption coefficient of light, or lower chemical reactivity. Those QDs should have new chemical composition or physical structures from conventional core-shell semiconducting QDs. Through innovative ideas about the essential properties of QDs, we expect to extend the scope of applications.

- Study on the colloidal synthesis of wide/low bandgap materials and their optophysical properties in nanodevices
  (Especially nitride compound like GaN, InN, AlN, or NIR absorbing material)
- Materials should not contain any toxic/environmentally harmful materials such as Pb, Cd, Hg, etc.

※ The topics are not limited to the above examples and the participants are encouraged to propose original idea.

※ Funding : Up to USD $200,000 per year