

# From all-inorganic and hybrid capping of quantum dots to their functional and ordered solids

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In this presentation, the recent advances in all-inorganic capping of colloidal quantum dots (QDs) with compact halide and metal-halide-complex ligands will be briefly overviewed.

These ligands provide very short interparticle distances in QD solids which is desired for the efficient coupling and charge transfer. Moreover, the new inorganic species may also be used for the controllable doping of the QDs. Nowadays, the variety of successful examples of allinorganic capping is known. Nevertheless, the formation of 2D or 3D ordered nanostructures from the all-inorganic-capped QDs appears to be extremely challenging. The introducing of hybrid capping approach by utilizing short chain amines (e.g. *n*-butylamine) allows not only efficient ordering of the QDs but also extends their processability to common solvents such as chloroform, *etc.* The applicability of all-inorganic and hybrid QDs and their solids for solution processable electronics (e.g. field-effect transistors) is demonstrated.

## References:

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