

# **Atomic Quantum Clusters: new state of matter at the transition from bulk to atoms**

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Atomic Quantum Clusters (AQC)s are formed by a small number of atoms ( $< \approx 100$ ) and represent a new family of compounds with novel and fascinating properties, which strongly differ from the those of both, bulk and nanoparticles of the same material. For example, fluorescent, magnetic, catalytic, etc. properties have been found in AQC)s, which are not exhibited for the same material in larger sizes. In the last years different soft chemical methods have been developed to synthesize these tiny compounds offering now the possibility to explore their novel properties in detail. In this talk it will be summarized the state-of-the art of this new field providing some examples of applications of relevant scientific and industrial importance.

## *References*

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