Masaryk University Brno, Faculty of Science
Czech Chemical Society Fall Lectures, 11/01/2012

25 Years of ZnO Nanocolloid Science

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25 years of fundamental and applied research on colloidal nano-ZnO largely enriched our knowledge concerning the chemical synthesis routes, cluster structures and mechanistic aspects of the nucleation/growth of nanoparticles. In addition, various new nanomaterials concepts were and still are largely explored worldwide in energy-, telecommunication- and biomedical technologies. This talk gives a historical overview of the most striking research findings collected so far. Three critical areas will be addressed and discussed:
(1) Size-structure-property relationships within the quantum confinement regime;
(2) Confined melting and glass transition phenomena in nanosized aggregates;
(3) Nanomaterials development directed towards smart assemblies and coatings.

Arnim Henglein
(1926 - 2012)

This talk is dedicated to the memory of Prof. Arnim Henglein, our great teacher and pioneer of colloidal semiconductor and metal nanosciences, holder of the Heyrovsky Medal in Gold of the Czechoslovakian Academy of Sciences (1988), former Director of Radiochemistry Department at the Hahn-Meitner-Institute Berlin-Wannsee, who died on January 5, 2012 in Freiburg (Germany) at the age of 85 years.