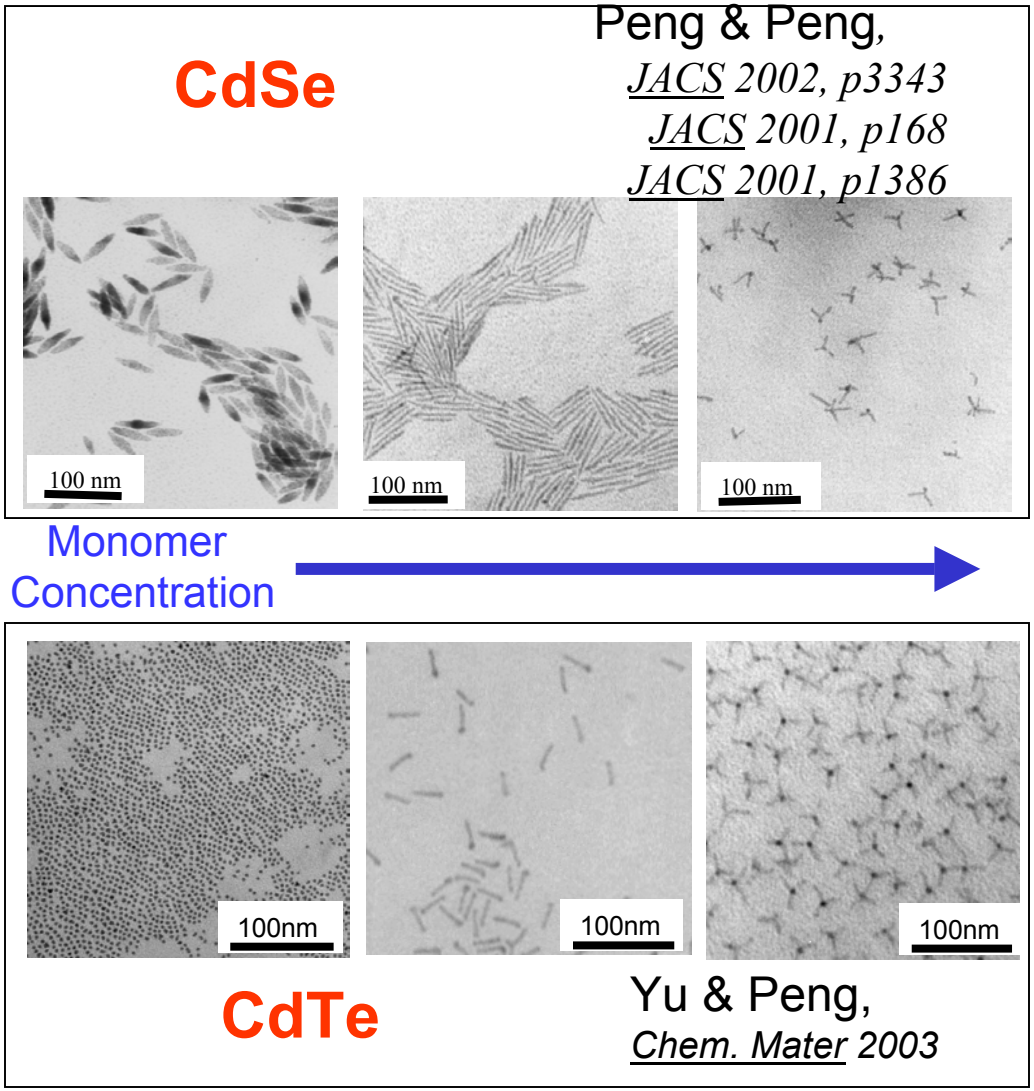
Growth Mechanism of High Quality Semiconductor Nanocrystals

PI: Xiaogang Peng, University of Arkansas at Fayetteville

DMR 0094248

Size and shape control of colloidal nanocrystals are of key importance to realize most of their technical applications, such as lasers, light-emitting diodes, solar cells, bio-medical labeling, etc. With the DMR support, our understanding of this key issue has reached an unprecedented and unexpected level.



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Education:

Four graduate students, four postdoctoral fellows, and two undergraduate students have participated in this work. The ones left this group have been playing important roles in several startup companies nationwide.

The first materials chemistry course was offered on this campus as proposed. This course has become one of the most attended graduate classes on the campus. It has been listed as a required course for MicroEP Ph.D. program (an interdisciplinary Ph.D. program on this campus).

Outreach:

This research group has already become the leading group in the world for understanding the growth mechanisms of colloidal nanocrystals. Visiting scientists from USA, Canada, Japan, Singapore, and China came to this group to be trained.

The PI has been actively visiting large companies, such as GE and Kodak, and startup companies, such as Quantum Dots, Nanosys, and Kovia, etc., to help them to start their nanotechnology programs.