



**NANYANG
TECHNOLOGICAL
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南洋理工大学

多相复杂系统国家重点实验室特邀学术报告

◆ 报告人 ◆ 陈虹宇 博士

◆ 报告题目 ◆ Fabrication of Complex Nanostructures by Colloidal Chemistry

胶体体系的纳米颗粒组装及复杂结构

的合成

◆ 报告时间 ◆ 2011 年 6 月 3 日 15: 00--17: 30

◆ 报告地点 ◆ 中科院过程大厦__308__会议室



报告摘要:

Structural control of nanomaterials is of paramount significance for nanodevice fabrication. This talk aims to give a general introduction to the nanostructures synthesized in Prof. Chen' lab, but he will put some emphasis on multi-layer nanostructures made of silica and polymer.

Prof. Chen will highlight the concept, strategy, and scope of our recent works. They have so far demonstrated several basic concepts for the colloidal synthesis of complex nanostructures. The novel nanostructures have provided useful insights in the studies of surface-enhanced Raman scattering (SERS), drug delivery kinetics, and solid state growth. The current focus is to impart specific functionalities to a judiciously designed nanostructure, where the different components could coordinate to achieve a certain function. Their long-term goal is to emulate the synthetic methodologies of organic chemistry and fabricate nanodevices by multi-step colloidal self-assembly of nano-components.

陈虹宇 1998 年本科毕业于中国

科学技术大学, 2004 年在美国耶鲁大

学获得生物无机化学博士学位, 2005

年到 2006 年在康奈尔大学从事博士

后研究。2006 年 10 月起任职于新加

坡南洋理工大学化学与生物化学系,

研究方向是生物无机化学与纳米科

学。2011 年 3 月任副教授。陈虹宇博

士近年来在知名杂志 Nature

Communication, JACS, Angew

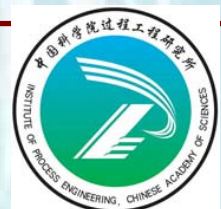
Chem, Nano Lett., ACS Nano, 等上发

表学术论文 40 余篇。本次报告中

详细介绍他取得的最新研究成果。

欢迎您的光临!

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特邀学术报告

◆ 报告人 ◆ Sridhar Komarneni Prof.

The Pennsylvania State University

◆ 报告题目 ◆ Nanoscience and nanotechnology through hydrothermal/solvothermal reactions

◆ 报告时间 ◆ 2011年6月3日(周五) 15:00--17:30

◆ 报告地点 ◆ 中科院过程大厦_308_会议室



报告摘要:

Green synthesis of several types of nanomaterials by hydrothermal/solvothermal process with and without microwave or ultrasonic fields will be presented. These nanomaterials could be useful in many nanotechnological applications such as catalysis, cosmetic pigments, electronic devices, environmental remediation etc. With several examples, I will demonstrate the value of these nanomaterials in nanotechnology. The microwave-hydrothermal/solvothermal technique has several advantages as follows: (a) rapid heating to temperature of treatment (b) increased reaction kinetics by one to two orders of magnitude (c) forming novel phases and (d) eliminating metastable phases. The first two advantages mentioned above could save energy and coupled with the closed-system condition this technique is proposed as a truly green chemical synthesis method. The combination of hydrothermal/solvothermal reactions with ultrasonic waves could lead to highly dispersed fine particles. While microwave-hydrothermal/solvothermal process has been thoroughly explored, the ultrasonic-hydrothermal/solvothermal process is in its infancy.

Sridhar Komarneni 教授是一名杰出的粘土矿物学专家。他致力于纳米材料及粘土矿物的基础应用研究，研究方向包括纳米复合材料，高性能陶瓷的溶胶-凝胶化学，水热及微波-水热工艺等。Komarneni 教授 1973 年获美国威斯康星大学麦迪逊分校土壤和地球化学博士学位，现任美国宾西法尼亚州立大学教授，国际溶剂热水热协会主席，Materials Research Innovations 联合主编，是美国科学促进会、材料研究学会、英国皇家化学学会、美国陶瓷学会、美国土壤学会等 8 个科学学会的会员。Komarneni 教授迄今已发表论文 500 余篇，出版专著 11 本，专利 10 项，获奖颇丰。在本次报告中，教授将详细介绍他的研究小组取得的最新研究成果。

欢迎您的光临!

