NCMC-9: Combinatorial Methods for Nanostructured Materials

April 24 - 25, 2006 ◊ Bldg. 101 / Lecture Room B

Agenda

Monday, April 24, 2006 – Morning

8:15 AM Registration
Continental Breakfast

8:45 AM Welcome and Introduction
Richard Kayser, Director, Materials Science and Engineering Laboratory, NIST

Michael Fasolka, Director, NIST Combinatorial Methods Center

Industrial Application of Nanomaterials

9:00 AM Plenary Lecture
Fiona Case, Case Scientific Inc.
Applications of Nanotechnology in Soft Materials

10:00 AM **Karl Maurer**, Combimatrix Corp.
The Use of Electrochemically Generated Reagents for Solid Phase Synthesis

10:45 AM *Refreshment Break*

11:00 AM Plenary Lecture
Prof. Daniel Savin, University of Vermont
Light Scattering Techniques for Polymer Materials

11:45 AM **Thomas Chastek,** Polymers Division, NIST
Microfluidic Dynamic Light Scattering

12:05 PM **Peter Harris,** Veeco Instruments
Advanced Imaging Modes for AFM

12:25 PM *Lunch* (NIST Cafeteria, Bldg. 101)

Monday, April 24, 2006 – Afternoon

Combi Methods for Thin Nanostructured Materials

1:30 PM Invited Lecture
Prof. Sergiy Minko, Clarkson University
Combinatorial Approach to the Problem of Interfacial Interactions via Gradient Polymer Brushes

2:15 PM Invited Lecture
Prof. Thomas Epps, University of Delaware
Combinatorial Studies of Block Copolymer Interactions with Surfaces

3:00 PM *Refreshment Break*

3:15 PM **Alamgir Karim**, Polymers Division, NIST
Nanoparticles at Soft Material Interfaces

3:45 PM **Christopher Stafford**, Polymers Division, NIST
High-Throughput Screening of Adhesion and Release in Nanoimprint Lithography

4:05 PM *Break*

Discussion Session

4:15 PM *Introduction*: **Michael Fasolka**, Director, NIST Combinatorial Methods Center

4:20 PM *Discussion*: **Fasolka, Beers,** and **Karim, Moderators**
Goals:
- Discuss key measurement needs in industrial development and application of nanostructured materials.
- Arrive at priorities for the development of combinatorial and high-throughput measurement methods for nanostructured materials.

Flipchart Notes from the Discussion

5:15 PM *Adjourn*

6:15 PM *Dinner*: Bugaboo Creek Steak House, 15710 Shady Grove Rd., Gaithersburg, MD.

Tuesday, April 25, 2006 – Morning

8:30 AM Reconvene
Continental Breakfast

Interactions and Update

9:00 AM **Michael Fasolka**, NCMC
Welcome Back

9:10 AM **Steve Fletcher** and **Jawwad Darr**, InsightFaraday, UK
High-Throughput Nanomaterials Discovery - A UK Perspective

9:45 AM **Daniel Cutbirth**, Nscrypt Inc.
Novel Deposition Systems for Combinatorial Libraries

10:20 AM *Refreshment Break*

10:40 AM **Celesta Fong,** CSIRO, Australia
CSIRO Molecular and Health Technologies

10:55 AM **Christopher Stafford,** NCMC
NIST Gradient Flow Coater

11:15 AM **Michael Fasolka,** NCMC
High-Throughput Preparation of Specimens for TEM

11:30 AM **Chang Xu,** NCMC
Combinatorial Surfaces of Grafted Polymers

11:45 AM **Brian Berry**, Polymers Division
Orientation in Nanostructured Thin Films

12:00 PM **Michael Fasolka**, NCMC
Discussion Summary and Redux

12:20 PM *Lunch* (NIST Cafeteria, Bldg. 101)

Tuesday, April 25, 2006 – Afternoon

NCMC Tours and Demonstrations

1:45 PM *Convene in NCMC Labs* – Building 224, Rm. B204
See Lab Tours Handout for Schedule

3:30 PM *Adjourn* – ***See you at NCMC-10! (October 5-6, 2006)***