



# NIST Combinatorial Methods Center

## ***NCMC-5: Combinatorial Processing & Characterization*** **April 26-27, 2004** ♦ Bldg. 101 / Employee Lounge

### **Monday, April 26<sup>th</sup>, 2004**

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|----------|--|---------|---|
| 8:15 am  | Registration<br><i>Coffee &amp; Doughnuts</i>  | 3:05 pm | Combinatorial optimization of Ohmic contacts to GaN semiconductor<br><b>Albert Davydov, MSEL NIST</b>                           |
| 8:45 am  | Welcome and Introductions<br><b>Michael Fasolka, Leader, Combi Group, MSEL NIST</b>  | 3:25 pm | <i>Coffee Break</i>   |
| 9:00 am  | Precision Dispensing - Lines, Dots, Layers and Blends<br><b>Jim Story, nScript L.L.C.</b>  | 3:40 pm | Characterization of the Optical Properties of Compositionally Graded Thin Films<br><b>Peter Schenck, MSEL NIST</b>              |
| 9:45 am  | Laser Fabrication of Combinatorial Libraries for Polymer and Biotechnology Development<br><b>Doug Chrisey, Naval Research Lab</b>                    | 4:00 pm | Structural Investigation of Functional Oxides Using Compositional Spreads<br><b>Leonid Bendersky, MSEL NIST</b>                 |
| 10:30 am | <i>Coffee Break</i>  | 4:20 pm | X-Ray Diffraction (XRD) and Electron Backscatter Diffraction (EBSD) Combinatorial Measurements<br><b>Mark Vaudin, MSEL NIST</b> |
| 10:45 am | Characterization of Extrusion and Gradient Coating Processing<br><b>Jeff Gilman, BFRL NIST</b>   | 4:40 pm | Near-Field Optics for Materials Characterization on the Nanoscale<br><b>Steven Buntin, CSTL NIST</b>                            |
| 11:15 am | Multi-Functional Monitoring of Polymer/Clay Compounding Using Dielectric, Optical and Fluorescence Measurements<br><b>Anthony Bur, MSEL NIST</b>     | 5:00 pm | Inorganic Combinatorial Materials Science Programs in Japan<br><b>Martin Green, MSEL NIST</b>                                   |
| 12:00 pm | <i>Lunch (NIST cafeteria, Bldg. 101)</i>   | 6:00 pm | <i>Reception (Summit Station) (227 East Diamond Ave., Gaithersburg)</i>   |
| 1:30 pm  | Development of Combinatorial Screening Tools for Inorganic Materials<br><b>Ji-Cheng Zhao, GE Global Research</b>                                     | 6:30 pm | <i>Dinner (Summit Station) (227 East Diamond Ave., Gaithersburg)</i>  |
| 2:15 pm  | Mapping Surface Chemistry and Molecular Orientation with Combinatorial Near-Edge X-Ray Absorption Fine Structure<br><b>Daniel Fischer, MSEL NIST</b> |         |   |
| 2:45 pm  | Temperature-Dependent Studies of Gas Sensing Materials Using MEMS Microarrays<br><b>Steve Semancik, CSTL NIST</b>                                    |         |   |

Over for Day 2 →

**Tuesday, April 27<sup>th</sup>, 2004**

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|----------|---|----------|--|
| 8:30 am  | Coffee & Doughnuts  | 11:10 am | MCAT-II: Recent Developments and Applications to Pressure Sensitive Adhesives<br><b>Seung-ho Moon, MSEL NIST</b>                       |
| 9:00 am  | Introductions<br><b>Mike Fasolka, MSEL NIST</b>   | 11:35 am | Gradient Micropatterns: A screening tool for nanomeasurements and nanomaterials<br><b>Duangrut "Mai" Julthongpiput, MSEL NIST</b>      |
| 9:10 am  | Small angle Light Scattering for High Throughput Screening of Polymer Formulations<br><b>Alexander Norman, MSEL NIST</b>                | 12:00 pm | Lunch (NIST cafeteria, Bldg. 101)  |
| 9:35 am  | A Multi-Sample Rheometer for High Throughput Measurements at Practical Frequencies and Strains<br><b>Howard Jeremy Walls, MSEL NIST</b> | 1:15 pm  | New Focused Project Feedback Session (Bldg. 224, Rms. B245 and A312)<br>- Formulations<br>- Adhesion<br>- Grafting SPM<br>- MALDI      |
| 10:00 am | New High-throughput Synthesis Methods using Microfluidic and Rapid Prototyping Techniques<br><b>Tao Wu, MSEL NIST</b>                   | 2:15 pm  | Gradient Technology Brainstorming session<br>Audience will address questions and needs on properties they would like to make gradients |
| 10:25 am | Coffee Break  | 3:15pm   | New Member Tour (optional)   |
| 10:45 am | Energy Analysis of Multi-Lens Adhesion Measurements<br><b>Aaron Forster, MSEL NIST</b>  | 4:15 pm  | IFT Focus Project meeting (membership required)  |



For More information on the NCMC please go to [www.nist.gov/combi](http://www.nist.gov/combi)