



**Ceramic, Composite and
Optical Materials Center**
an NSF, I/UCRC
Clemson University, South Carolina
Rutgers, The State University of New Jersey

Fall 2011 Industrial Advisory Board Meeting

19-21 October, 2011

Clemson University

Wednesday, 19 October, The Conference Center & Inn, Harris Terrace

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| 2:00-2:30 | Registration |
| 2:30-3:00 | Welcome - Future directions Clemson Site, Phil Brown |
| 3:00-3:30 | Fiber spectral engineering, John Ballato |
| 3:30- 4:00 | Metal-oxide nanoparticle-polymer composites: Lessons learned and lesson to be learned Thompson Mefford |
| 4:00-4:30 | Cellulose Nanocrystal Reinforced Alginate Fibers - Biomimicry Meets Polymer Processing, Chris Kitchens |
| 4:30-5:00 | Thermally-Responsive Polymer Electrolytes, Mark Roberts |
| 5:00-5:30 | Experimentally-validated modeling of polymer fiber and film extrusion, Chris Cox |
| 6:00-10:00 | Reception and registration |

Thursday, 20 October, The Conference Center & Inn, Bell South Auditorium

8:00-8:30 **Registration & Continental Breakfast**

8:30-8:45 Welcome, Phil Brown

8:45-9:15 Introductory Remarks, NSF

9:15-9:35 NSF Evaluator, Steve McGregor

TECHNICAL REVIEW - Clemson Site

9:35-9:55 Review of Meeting Objectives CCOMC, Rich Haber

9:55-10:15 **A** - Hydrothermal Synthesis and Processing of Refractory Oxides and Nitrides, Joe Kolis

10:15-10:35 **B** - Transparent Ceramics with Enhanced Mechanical Properties, John Ballato

10:35-10:55 **C** - Optically active polymeric fiber based materials, Phil Brown

10:55-11:25 **Break**

11:25-11:45 **D** - Evanescent wave sensors grafted with enrichment polymer layers, Igor Luzinov and Kathleen Richardson

11:45-12:05 **E** - Project proposals Clemson

12:05-1:30 **Lunch, Bell South Auditorium**

1:30 - 3:00 Rutgers Site Review

F - Processing of Thermoelectrics, Dunbar Birnie

G (a) - Transparent Spinel - Rich Haber

(b) - Processing of Boron Carbide, Rich Haber, Steve Miller

H - Solution Crystallization of Spinel, Rik Riman

I - Modeling the Densification of Non-Oxide Ceramics, John Matthewson, Rich Haber

- J** - Effect of Machining on Residual Stressing in Ceramics, Adrian Mann, Rich Haber
- 3:00-3:30 **Break**
- 3:30-4:30 **K** - Defining Microstructural Tolerance Limits of Defects for SiC and Al₂O₃ Armor, Rich Haber, Dale Niesz
- L** - B₄C Variability, Dan Maiorano, Rich Haber
- M** - Variability in SiC Powders, Rich Haber
- N** - NDE of Armor, Rich Haber
- O** - Modeling of Binder Removal for Micron and Submicron Ceramic Compacts, John Matthewson
- 4:30-5:30 **Poster Session and Reception - meeting rooms 3 & 4**
- 5:30-8:30 **Buffet**

Friday, 21 October, AMRL Building, 91 Technology Dr, Anderson

Two functions will be held on Friday Morning. For the Industrial Advisory Board Members, the IAB Meeting will be held. For other corporate members a set of tours/demonstrations are scheduled. All will be completed by noon to allow for travel

INDUSTRIAL ADVISORY BUSINESS MEETING — AMRL Building

- 7:30 Continental Breakfast
- 8:00-8:30 Site Reviews
- 8:30-9:30 NSF Evaluator Review, Steve McGregor
- 9:30-10:00 Technical Session and Strategic Planning, IAB Closed Session
- 10:00-12:00 Tours at COMSET/AMRL
 - Electron Microscope Facility
 - Fiber Optic Draw Tower
 - Thermal Characterization Laboratory
 - Research Laboratory
- 12:15 **Box Lunch, AMRL Building**