

## **Nanocomposites and Composites Workshop**

### ***Developing the 21<sup>st</sup> Century Nanotechnology and Composites Industries Workforce!***

The Center for Nanocomposites & Multifunctional Materials [CNCMM], Pittsburg State University (PSU) in partnership with the Plastics Engineering Technology program, PSU is organizing and planning a 2-day, **Nanocomposites and Composites Workshop** for Industry, Government and Academia personnel.

This workshop is mainly hands-on oriented with complimentary lecture portions, and is scheduled for **July 30 – 31, 2009**. [A second session is planned for **August 6 - 7, 2009**].

Workshop Location: Pittsburg State University (Kansas Technology Center), Pittsburg, KS

Workshop PIs:

Dr. Chris Ibeh, Director, Center for Nanocomposites & Multifunctional Materials (CNCMM)  
Prof. Bob Susnik, Coordinator, Plastics Engineering Technology Program, PSU, & Staff

Topics to be covered include but not limited to:

- Nanoparticles and Nanocomposites,
- Production of Nanocomposites – Infusion of Polymeric Matrices with Nanoparticles,
- Production of Composites – Vacuum Infusion and Compression Molding Processes,
- Characterization of Nanocomposites and Composites – Differential Scanning Calorimetry (DSC), SPI Gelation testing, Atomic Force Microscopy (AFM), etc.,
- Mechanical Properties Testing of Nanocomposites and Composites,
- Misc -Flammability (FST) Characterization, Safety & Ethics, etc..

Workshop Audience:

- Composites Industry Personnel – Workers, Company Owners, Administrators
- College and High School Teachers and Administrators – Curriculum Enhancement
- Government Personnel and Administrators --

We hope that your organization will sponsor and support this workshop and effort to **develop the 21<sup>st</sup> Century Nanotechnology and Composites Industries Workforce**.

Levels of Support:

1. Organizational funding of workshop expenditures – to facilitate annual hosting of workshop
2. Organizational participation in workshop – sponsorship of organization's personnel to attend and participate in workshop
3. Facilitation of advertisement and promotion of workshop.

2009 Workshop Implementation Timeline:

- May 20 -23, 2009 --- Contact of prospective sponsoring organizations
- May 28 – June 04, 2009 --- Initial promotion & advertisement of Workshop
- June 05 - July 21, 2009 --- Registration activities
- June 05 – July 28, 2009 --- Preparation of Workshop materials and activities

Registration Form

Nanocomposites and Composites Workshop @ Pittsburg State University (PSU)

**Registration Fee: \$500 per Attendee**

**Organization Rate (3 or more Attendees): \$400 per Attendee**

**Registration Deadline: Sessions 1 and 2: July 21, 2009**

**(After Deadline, Registration will be on-site; On-site Registration = \$550.0 per Attendee)**

Name (Workshop Attendee): \_\_\_\_\_

Company Affiliation: \_\_\_\_\_

Title/Position w/Company: \_\_\_\_\_

Company Address: \_\_\_\_\_

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Contact Info: Tel. #: \_\_\_\_\_ Fax: \_\_\_\_\_

E-Mail (Required): \_\_\_\_\_

\* **Session Attending:** [ ] Session 1-- July 30 – 31, 2009; [ ] Session 2 – August 6 – 7, 2009

**Fill out Registration Form** and Mail it in prior to the deadline with a check for the correct registration fee to this address:

Department of Engineering Technology  
(NanoComposites Workshop)  
C/O: Ms. Mary Ann Toeller  
Pittsburg State University  
1701 So Broadway  
Pittsburg, KS 66762

**Credit Card Option** (Visa, MasterCard, Discover):

Contact the Engineering Technology Office via the senior administrative assistants, and specify the **Nanocomposites & Composites Workshop**:

1. Mary Ann Toeller [ETECH] ---Tel #: 620 235 4350
2. Kendra Jones [CNCMM] --- Tel. #: 620 235 6175

**Nanocomposites and Composites Workshop -- SCHEDULE**  
*Developing the 21<sup>st</sup> Century Nanotechnology and Composites Industries Workforce!*

**Day One: Thursday – July 30, 2009 .. Morning Session**

**7:45 a.m.** Coffee & Donuts ---- Room S110, Kansas Technology Center (KTC)

**8:00 – 8:50 a.m.** Program Overview, Safety -- Room S110, KTC .. Dr. Chris Ibeh

**9:00 – 9:50 a.m.** Composites Overview–Materials, Processes, Safety .Prof. Bob Susnik

**9:50 – 10:05 a.m. Break**

**10:05 a.m. – 12:15 p.m.** --- Laboratory Exercise I – Introductory

- Section I: Nanocomposites – Sonication Infusion/Dispersion ... 45 Minutes
- Section II: Composites – Vacuum Bagging, Compression Molding ... 45 Minutes
- Section III: DSC – Cure Characterization; SPI Gelation Test... 45 Minutes

**12:15 – 1:30 p.m. – Lunch (Provided) ... KTC Faculty Lounge**

**Day One: Thursday – July 30, 2009 .. Afternoon Session**

**1:30 – 2:20 p.m.** Matrix Design & Development --- Rm S110, KTC ..... Dr. Chris Ibeh

**2:30 – 3:20 p.m.** Vacuum Processing ----- Room S110, KTC ... Prof. Bob Susnik

**3:20 – 3:35 p.m. Break**

**3:35 – 5:30 p.m.** – Laboratory Exercise II

Nanocomposites Hierarchicals – Vacuum Infusion & Compression Molding

**5:30 p.m.** --- Adjourn Day One Activities

**Day Two: Friday – July 31, 2009 .. Morning Session**

8:45 a.m. Coffee & Donuts ---- Room S110, Kansas Technology Center (KTC)

**9:00 – 9:50 a.m.** NanoSafety & Ethics --- Room S110, KTC .... Dr. Chris Ibeh

**9:50 – 10:05 a.m. Break**

**10:00 a.m – 12:10 p.m.** Testing and Characterization Exercises

\* **Section I:** Mechanical Testing --- Rooms W124, W121, KTC... 45 Minutes

\* **Section II:** Cone Calorimetry – (FST) --- Room W127, KTC... 45 Minutes

\* **Section III:** AFM – NanoCharacterization – Room. W121, KTC...45 Minutes

**12:15 – 1:30 p.m. – Lunch (Provided) ... KTC Faculty Lounge**

**Day Two: Friday – July 31, 2009 . Afternoon Session**

**1:30 – 3:20 p.m.** Tour of CNCMM & KPRC Research Facilities --- PSU Campus

- Nanoparticles – Modified Sol Gel Process
- Nanosensors – Self Assembly Technique
- KPRC – SoyPolymers Green Technology
- Cone Calorimetry – FST Mitigation

**3:30 – 4:15 p.m.** – Round Table Discussions: Q & A Forum --- Room S110, KTC

**4:30 p.m.** Appreciations, Awards & Adjourn! --- Room S110, KTC

## **Hotels and Accommodation Information**

### **Comfort Inn & Suites Pittsburg**

(620) 231-8800

4009 Parkview Dr [N. Broadway; HWY 69], Pittsburg, KS 66762 [map](#)

### **Extra Inn**

(620) 232-2800

4023 Parkview Dr [N. Broadway; HWY 69], Pittsburg, KS 66762 [map](#)

### **Econo Lodge**

(620) 231-8300

2408 S Broadway, Pittsburg, KS 66762 [map](#)

### **Super 8 Motel Pittsburg**

(620) 232-1881

3108 N Broadway St [HWY 69], Pittsburg, KS 66762 [map](#)

### **Holiday Lodge**

(620) 231-1350

2701 N Broadway St [HWY 69], Pittsburg, KS 66762 [map](#)

### **Holiday Inn Express**

(620) 231-1177

4011 Parkview Dr [N. Broadway; HWY 69], Pittsburg, KS 66762 [map](#)

## **Airport and Travel Information**

Pittsburg, KS is accessible via the following airports and others:

1. Kansas City Airport (2.5 Hours Away)
2. Tulsa, OK Airport (2.5 Hours Away)
3. Joplin, MO Airport (0.5 Hour Away)
4. Wichita, KS Airport (3.5 Hours Away)
5. Springfield, MO (2.5 Hours Away)