

## Materials & Nanoscience Outreach

*to inform, resource, and support outreach efforts in the materials and nanoscience areas*

### Recent Educational Outreach Activities

#### NanoDays

The Nebraska Center for Materials and Nanoscience, Nebraska EPSCoR, and the University of Nebraska-Lincoln's Materials Research Science and Engineering Center held Lincoln's first NanoDays event on April 2 at Westfield Gateway Shopping



Center. UNL faculty, staff, and students and science educators presented games and activities that demonstrated the special and unexpected properties found at the nanoscale and the promise that nanoscience holds for transforming our daily lives. NanoDays is organized by the Nanoscale Informal Science Education Network and takes

#### NanoCamp

Students, 6-9th grade, participated in a week long Nanocamp held June 27th-July 1 where UNL faculty and graduate students, NCMN and Bright Lights staff, future science teachers and the Department of Physics & Astronomy all worked together to present an amazing mini-course about nanotechnology at UNL. Topics and supporting activities included synthetic polymers, carbon nanotubes, self assembly, DNA, ferrofluids, stem cells, catalysts, alternative energy, physics of waves, and nano ice cream! Resources and more information about the camp can be found at <http://www.unl.edu/ncmn/outreach/nanocamp2011.shtml>.



#### Teachers Nanoscience Workshop

Science teachers from Lincoln Public Schools and other education programs at UNL participated in a full-day "Hands-on Nanoscience" NCMN Professional Development Workshop covering topics like "Planck's Constant with LED's and "Organic Solar Cells". Physics Prof. Steve Ducharme and his colleagues provided teaching and one on one coaching on how to use the kits to enrich and support current nanoscience curriculum. Resources, videos, and powerpoints from the workshop can be found at <http://www.unl.edu/ncmn/outreach/>



#### Administrative Support Available for NCMN Member Outreach Activities

NCMN offers additional outreach help, including some administrative services to NCMN faculty members in fulfilling the Broader Impacts outreach component in NSF grants. **Contact:** Terese Janovec, Assistant Director and Education/Outreach Coordinator, 855 N. 16th Street, Room 093, phone: 402 472-2716, fax: 402 472-6148, e-mail: [tjanovec3@unl.edu](mailto:tjanovec3@unl.edu).

## Summer Research Program for Undergraduates



Ten faculty from the departments of chemistry, physics, and engineering hosted undergraduate students in their labs for a 10 week summer research experience focused on nanoscience. NCMN staff partnered with UNL's Graduate Studies, MRSEC and departments to provide selected students a variety of social and educational activities in addition to their research. More information about the Research Experiences for Undergraduates can be found at <http://www.unl.edu/ncmn/REU1.shtml>.

### NCMN Ed/Outreach Upcoming Events

**Nebraska Association of Teachers of Science (NATS)**  
September 29-Oct. 1  
Camp Calvin Crest,  
Fremont, Nebraska

**WoPhy2011**  
Conference for Undergraduate Women in Physics  
October 20-22  
City Campus

**NanoScience Cafe**  
December  
red9  
Presenter: Dr. Axel Enders



### Big Red Stars and Nano

Big Red Stars is a special recognition program designed to honor outstanding eighth grade Nebraska students. Physics professor, Christian Binek inspired about 125 Big Red Star students to learn the nano physics of waves through a variety of interactive activities including a giant slinky, flutes, and flames controlled by an electric guitar.

### Nanoscience Cafe

Dr. Srivatsan Kidambi, assistant professor of Chemical and Biomolecular Engineering at UNL, provided an informative presentation at a recent NanoScience Café about discoveries in stem cell research and how nanotechnology is playing an important role in leading stem cells from lab scale to clinical therapeutics.

Science Café's engage the public in conversations about science with a casual, open format, using plain language, inclusive conversation and a comfortable atmosphere for people with little or no science background.



## Resources

### NanoLINKs of the Month

**NanoFabric Video**  
<http://youtube.com/watch?v=g9UENE6JMU>

**National Nanotechnology Initiative Site**  
<http://www.nano.gov/nanotech-101>

## Nebraska Center for Materials and Nanoscience *Bridging Nanoworld Opportunities in Nebraska...*

The Nebraska Center for Materials and Nanoscience (NCMN) at the University of Nebraska is a multidisciplinary research organization involving 85 faculty members from the Departments of Physics, Chemistry, Electrical Engineering, Mechanical Engineering, Chemical & Biomolecular Engineering and others. NCMN strives for excellence in research, graduate and postdoctoral education and service in materials science and engineering, and nanoscience. It is on the forefront of research in a high-priority national program, the National Nanotechnology Initiative. NCMN also works with state and national industries in support of Nebraska's overall economic development.

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