

Current and Potential Educational Outreach Options

All the options below use existing systems (except Middle Level Recruiting Initiative) that nanoscience could be integrated into. The ** designates program systems being used now to teach and communicate about nanoscience.

Elementary

- ****UNL Science Outreach Website** – In process of development with the Math, Science & Computer Science Center- will eventually include all science outreaches at UNL
<http://scimath.unl.edu/outreach/>
- **Resource Website** - Develop as a resource for K-12 – see example - MRSEC site at Wisconsin
<http://www.mrsec.wisc.edu/Edetc/>
- ****Bright Lights Camp –(Dr. Eva Franke-Schubert)** Develop nanoscience class (summer,1/2 day for 1 week, 6-8 grade)
<http://www.brightlights.org/>
- ****Project Fulcrum** -K-12 Outreach (grad students partner with LPS science teachers)
<http://physics.unl.edu/~fulcrum/>
- **4-H** - After School Programs, Summer Camps, School Enrichment, 4-H Clubs, Special Interest
<http://4h.unl.edu/>
- **Homeschooling** – Science Classes (Mondays), Tours
<http://www.homeschool-life.com/ne/heartland/>
- **Lincoln Children’s Museum** - Develop nanoscience presentations for camps/events at museum
<http://www.lincolnchildrensmuseum.org/aLCM.php>
- **UNL Museum**
Nanodays, Community Learning Centers, Traveling Exhibit, Temp Exhibit in Museum, Career Day, Gallery Programs, Science Kits, Wonderwise Women in Science Kits
**Sunday with a Scientist (Ducharme)
<http://www-museum.unl.edu/education/index.html>
- **Museum Planetarium** Visual program with nanoscience pictures/narration/music
<http://www-museum.unl.edu/education/planetarium.html>
- ****UNL Speakers Bureau –(Binek, Ducharme)** Faculty present science demonstrations at schools and community organizations/events
<http://speakersbureau.unl.edu/>
- **Community Learning Centers - After School Programs**
Lincoln Public Schools and Community Learning Centers provide extension of school curriculum through science programming after school-(6-8 weeks - 1-2 times week)
Tutoring program-paid positions
<http://www.lincolnclc.org/>
- **NET – Nebraska Educational Telecommunications**
Radio and TV programming throughout Nebraska
<http://www.netnebraska.org/television/>
<http://www.netnebraska.org/learning/index.htm>

Mid/High School

- ****Big Red Road Shows**
http://admissions.unl.edu/road_show/index.aspx

- **EPSCoR** - “Young Nebraska Scientist” Camp
Develop Nanoscience classes for middle/high school week long summer camps at UNL
<http://yns.nebraska.edu/UNLEMBHSSC.shtml>
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- ****Summer Internships –(Choe)** Early recruiting of high potential students starting in 9th grade
- **Middle Level Recruiting Initiative**
Identify high potential science students through UNL camps and Duke TIP program- recruit through campus visits, scholarships, summer internships, Mentorships, Facebook, etc
- ****Bright Lights Camp –(Dr. Eva Franke-Schubert)** Develop nanoscience class (summer, 1/2 day for 1 week, 6-8 grade)
<http://www.brightlights.org/>

Undergraduate

- **** (REU) Summer Undergraduate Research (many faculty have participated)**
<http://www.unl.edu/summerprogram/>
- **Nanoscience Undergraduate Minor** – add to department offerings
- ****WoPhy09 Conference – undergraduates in Physics (Enders)**

<http://physics.unl.edu/~wophy/>

- **Community Learning Centers - After School Programs (22 schools)**
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Tutoring program-paid positions
<http://www.lincolnclc.org/>
- ****Nebraska Alumni Association Job Bank**
Employers that are alumni provide paid student internships
<http://www.huskeralum.org/getinvolved/VOB/index.shtml>

Graduate

- ****Project Fulcrum** - K-12 Outreach (grad students partner with LPS science teachers)
<http://physics.unl.edu/~fulcrum/>
- **Nano Graduate Fellowships** -Recruiting tool for high quality students
- ****Graduate Studies - Talisma Email Campaign** (based on GRE list)
- **Travel Fellowships to conferences**
- ****NCMN Seminars** – Guest speakers hosted by NCMN faculty members
<http://www.unl.edu/ncmn/seminars.shtml>
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Teachers

High School/2-year/4 year Teachers

- ****UNL Science Outreach Website** – In process of development with the Math, Science & Computer Science Center- will eventually include all science outreaches at UNL
<http://scimath.unl.edu/outreach/>
- **Math & Science Summer Institutes** - Develop summer classes for high school honor students
<http://www.unl.edu/scimath/>
- **** (RET) Research Experience for Teachers (Kirby, Ducharme)**- Summer Research at UNL
<http://www.mrsec.unl.edu/education/RET.shtml>
- **Nanoscience graduate class** - Develop credit summer classes for high school science teachers
Chemistry, Physics, Engineering, etc. agree to offer credits for a 2 week session at UNL
- **UNL Graduate Online Courses** – Develop credit nanoscience graduate class online for high school science teachers
- ****LPS Teacher Professional Development Workshops –(Ducharme)** Nanoscience kits and other information to use in classrooms (1/2 day summer workshops held in departments)
<http://www.unl.edu/ncmn/outreach.shtml>
- **Inservice Training of Teachers** (all public, 2-year, 4 year levels)- Nanoscience area
- **Inservice Training of Nebraska College Prep Academy teachers**
http://admissions.unl.edu/college_prep_academy/summer_research/index.aspx
- **Resource Website** - Develop as a resource for K-12 – see example - MRSEC site at Wisconsin

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****College Teachers plus Undergraduate** – Summer Research Experience for Teachers - MRSEC

<http://www.mrsec.unl.edu/education/index.shtml>

Diversity

High School

- **Nebraska College Prep Academy** - Summer Science Camp (2 day)
http://admissions.unl.edu/college_prep_academy/summer_research/index.aspx

Undergraduate

- ****WoPhy09 Conference-(Enders)** Physics conference for undergraduates
<http://physics.unl.edu/~wophy/>
- ****Women in Science** – Conference to explore science careers for women
<http://scimath.unl.edu/csmce/wis.php>
- **February Forum** - Honors outstanding junior and senior women majoring in scientific fields
<http://scimath.unl.edu/csmce/febforum.php>
- **Freshman class**- Develop class (Funding available through Math & Science Center -\$10,000/class)
- **Nano Undergraduate Fellowships** – (Funding)

Graduate

- **Graduate Fairs** (Sacnas, etc.)
- **Nano Graduate Fellowships** - (Funding)

Post-Doc

- **Nano Funds for Post-doc Diversity Recruitment**
Provide funds to attract top tier postdoctoral associates from underrepresented groups

Recruiting

Graduate

- ****Talisma Email communications** –Grad Studies advertises NCMN resources along with department emails to undergrads from GRE lists
- **Guest Faculty Lectures** - at targeted colleges/universities

Mid/High School

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- **Tours** – (Labs, PrairieFire Computer, etc.) Recruit high potential Freshman/Sophomore students partnering with Honors Program and Undergrad Admissions
- **Extreme Light Laboratory Tour**
<http://www.unl.edu/diocles/>
- ****Senior News** – email campaign to high school seniors from Undergrad Admissions office
- ****Big Red Road Shows**
http://admissions.unl.edu/road_show/index.aspx
- **Summer Internships –(Choe)** Early recruiting of high potential students starting in 9th grade

- **Middle Level Recruiting Initiative**

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Technology

- **Social Networking Tools** – Facebook, Twitter, YouTube, Website, Second Life (Virtual Life/Virtual Campus)

Community Outreach – Informal Science Outreach

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- **Art in Airports** – Nanopicture Displays
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- **Science Cafes** – informal conversation with a scientist about current science topics in casual settings like pubs and coffeehouses
<http://www.unmc.edu/sciencecafe/index.htm>
- ****Osher Lifelong Learning Institute Lectures** – designed for lifelong learners 50 years plus
<http://cehs.unl.edu/olli/>