



News from the Center for Life Science Enterprise



Spring 2008

Intent of the semi-annual newsletter:
To provide our stakeholders with some
news, nuggets, and faculty research
highlights in hopes of sparking new
connections.



Next CAT advisory Board Meeting:
May 13, 2008, following the
second annual Public
Engagement and Science
Communication Symposium.

Nobel laureate, Executive Editor, and NSF Director--speakers at May 13 Public Engagement and Science Communication Symposium

Speakers will include Nobelist and poet Roald Hoffmann, [SciBX](#) Executive Editor Gaspar Taroncher-Oldenburg, and Jeff Nesbit, Director of Legislative and Public Affairs at the [National Science Foundation](#). Over twenty faculty research posters will be evaluated by community members for the \$10,000 prize awarded to the faculty member who best communicates his research to a general audience. Held in G10 Biotech 8 am-2:30 pm.

CAT and Innovation proposals under review

Applications from colleges all across campus were received by the March 14 deadline. Awards will be announced April 25 and funding will begin July 1, 2008.

Pre Seed Workshop continuing strong

Two spring workshops, in Ithaca and New York City, helped ten teams evaluate their technologies and entrepreneurial fortitude, and to get a boost toward commercialization. The Pre-Seed Workshop is a state-wide program aimed at promoting entrepreneurship. It helps turn university research into start-up ventures by merging business and technology at a very early stage in a company's life. The experience is focused to give the owner of the technology a better understanding of what is needed to turn their idea into a business. The Pre-Seed Workshop model brings researchers or technology owners together with a start-up coach (usually a seasoned or serial entrepreneur), an investor and an MBA student, an expert in the technology or industry and other professionals such as an attorney. These people form teams that work to determine the commercial prospects of the technology, examine the human resources needed, and determine the next steps.



BioExpo 2008 a success

"Integrating Biological and Environmental Engineering Research with Industry" showcased over fifty research poster presentations, as well as industry displays. Featured speakers included CAT Advisory Board member [Richard Newman](#) and CAT researcher [Michael Shuler](#). As a result of their hard work and resounding success, the Institute of Biological Engineering (IBE) won the "Most Improved Student Organization" award from the Engineering Alumni Association. see <http://www.bee.cornell.edu/cals/bee/upload/Bio-Expo-2008-Press-Release-2.pdf>

See the Center for Life Science Enterprise homepage at
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FACULTY VIGNETTES



- M.S. (1998) Pharmacy, Ludwig-Maximilians-University, Munich, Germany
- Ph.D. (2003) Pharmaceutical Technology, University of Regensburg, Regensburg, Germany
- Postdoctoral fellow of the German Research Foundation (DFG)
- 2004 Award for outstanding dissertations at Eastern Bavarian universities Kulturpreis E.ON Bayern

**Dr. Claudia
Fischbach-
Teschl**

Dr. Fischbach studies 3D tumor environments to better approximate the situation in the body. Media attention over her project appeared this winter in the Cornell Chronicle (see <http://www.news.cornell.edu/stories/Nov07/fischbach.tumor.aj.html>). Her recent Innovation award sponsored the evaluation of the role of enhanced mechanical stiffness and adipose tissue function in breast cancer. Cultured within alginate microspheres, the cells mimic both normal and malignant mammary tissue, and were tested for sensitivity to chemotherapeutic drugs.

For links to her webpages, go to: <http://www.fischbachlab.org/research.php>.

**Dr. Dan
Luo**

- B.S. (1989) Biological Sciences, University of Science and Technology of China, Hefei, Anhui, P. R. of China
- PhD (1997) Molecular, Cellular, and Developmental Biology, Ohio State University, Columbus, Ohio
- 2007 NYSTAR Faculty Development Program Award
- 2007 Cornell Provost's Award for Distinguished Scholarship
- 2006 NSF CAREER Award
- 2003 "Cornell University Outstanding Educator" for having most influenced a Merrill Presidential Scholar



As associate professor of Biological Engineering in the department of Biological and Environmental Engineering Dr. Luo is also associated with the Nanobiotechnology Center (NBTC), Cornell Center for Materials Research (CCMR), Kavli Institute for Nanoscale Science, the Vertebrate Genomics Center, and New Life Science Initiatives at Cornell. His current research focus is on the Nucleic Acid Engineering, Nucleic Acid Engineered Materials and Devices, Nanobiotechnology and Drug Delivery.

Dr. Luo started the company DNANO which stands for DNA and NANO ("We Bring DNA and Nanotechnology Together") whose goal is commercializing DNA nanobarcode technology for the high growth life science market, which includes biotech/pharma R&D, molecular diagnosis, veterinary and agriculture diagnosis, and anti-bioterrorism biodefense. For links to his webpages, go to: http://luolabs.bee.cornell.edu/peop_dan.htm.

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UPCOMING EVENTS

Entrepreneurship@ Cornell Celebration

Dates: April 10-11

Location: Statler Auditorium

The university-wide event brings together more than 500 students, alumni, faculty, and staff from nine colleges and programs. "Pains and Gains" Business Roundtable and "The Billion-Dollar Gamble" symposium highlight the school's entrepreneurial edge. Technology Business and Resource Expo features exhibits from more than 50 students, faculty inventors, & local businesses. For the agenda, see <http://entrepreneurship.cornell.edu/events/celebration08/agenda.pdf>.

Bob Richardson Symposium

Dates: April 12

Location: Schwartz Auditorium, Rockefeller Hall

A symposium honoring Robert C. Richardson, Floyd R. Newman Professor of Physics and Director of the Kavli Institute at Cornell. Morning talks take a look at the science of low temperature physics; afternoon panels review the roles of industrial labs and universities in the generation of knowledge and innovation. See http://www.research.cornell.edu/kic/richardson_symposium.html

ACCELERATE 2008 "New Ideas in Technology, Manufacturing, Energy & the Environment"

Date: April 30

Location: OnCenter Complex, Syracuse

Bringing Together New Ideas

Experience the most exciting developments in Technology, Manufacturing and Sustainability as leaders, innovators and forward thinking professionals gather in Central New York for Accelerate 2008 - an annual event to celebrate and promote economic vitality, social equity and environmental stewardship in our region and beyond. See <http://www.accelerate2008.com/> for agenda details.

Public Engagement and Science Communication Symposium **May 13**

Location: G10 Biotechnology Building

See www.biotech.cornell.edu for forthcoming agenda and details.

19th Annual POP Symposium 2008

Dates: May 19-20

Location: Beck Center, Room 196, Statler Hall

"Polymer materials for a sustainable future" will include presentations covering the latest advances in polymer research at Cornell, industry presentations and the ever-popular poster session highlighting our entire research portfolio and graduate students and postdocs. Learn about cutting-edge research at Cornell and network with colleagues in academia and industry. See <http://popsymposium.cornell.edu> for more information and to register.

Fuel Cell Symposium

Dates: May 20-21

Location: Park Atrium, Beck Center in Statler Hall

Planned sessions include Advanced Fuel Cell Catalysts and Supports, Advanced Membrane Electrolytes for Fuel Cells, Keynote Address: Industry Look Ahead, Mini-Tech Talks: Eye on Industry Innovations, and Academic and Industry Posters. For registration and further info see <http://www.cfc.ccmr.cornell.edu/symposium/program/>.

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UPCOMING EVENTS

MARK YOUR CALENDAR:

- ✓ **Biotechnology Management & Entrepreneurship seminar series 2008-2009**
Wednesday evenings resuming fall 2008. To see past seminars, go to [media site](#). Contact John Trachtenberg at jt387@cornell.edu to be added to the mailing list.
- ✓ 10/27/2008 9th Annual **Nanobiotechnology Symposium**
Check http://www.nbtc.cornell.edu/program_events.htm for forthcoming details.
- ✓ 11/14/2008 8th Annual **Healthcare and Biotechnology Club Symposium**
Visit <http://forum.johnson.cornell.edu/students/orgs/hbc/index.html>.
- ✓ November **Pre-Seed Workshop** planned for Geneva, NY. For ideas that think they might want to become start-up companies. To evaluate your eligibility, or to get involved, see <http://www.biotech.cornell.edu/pdf/PSW-4pager%20researchers-v3.pdf>

HONORS:

- ❖ **Matt DeLisa** has been awarded the inaugural Daniel IC Wang Award sponsored by John Wiley & Sons and by the journal *Biotechnology and Bioengineering*. It is awarded to an accomplished young member of the biotechnology/bioengineering community for commitment to the journal and the community it serves.
- ❖ **DNANO Systems**, a start-up company to commercialize Dan Luo's research, was selected as one of ten semifinalists for the \$100,000 Creative Core Emerging Business Competition. The final competition will be held April 21. Dan Luo is a NYSTAR faculty development grant recipient.
- ❖ CAT and Innovation award funded faculty reported 11 pending or approved patents and 5 disclosures in the past year.
- ❖ **Novomer** was highlighted in the most recent issue of Connecting with Cornell. For electronic access, please visit the Office of the Provost for Research webpages under publications: <http://www.research.cornell.edu/VPR/pubsmain.html> issue 21.1

For all small NY State life science companies: to be considered for a discounted student intern, go to <http://epe.cornell.edu/> and mention the CAT. With matching funds from Cornell Real Estate on Catherwood Road, funding for interns will continue to be subsidized.

SELECTED CENTER FUNDED RESEARCH RESULTS:

- ❖ **Geoffrey Coates'** paper on "Alternating copolymerization of epoxides and cyclic anhydrides: an improved route to aliphatic polyesters" (J Am Chem Soc 129:11330) was highlighted in Science Magazine's editor's choice: highlights of the recent literature (Sci 317:5844)
- ❖ CAT faculty researchers [Emmanuel Giannelis](#) and **Carl Batt** published "New Biodegradable Polyhydroxybutyrate/Layered Silicate Nanocomposites" in [Biomacromolecules](#) 8, 3393-3400.

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NEWS and EVENTS

- ❖ **Dan Luo's** work on "Dendrimer-like DNA-based fluorescence nanobarcodes" appeared in [Nature Protocols](#) 1(2):995.
- ❖ **Michael Shuler** published "An Actively Mixed Mini-Bioreactor for Protein Production From Suspended Animal Cells" (*Biotechnol. Bioeng.* 100(1):72), which establishes the feasibility of the reactor design. Shuler also published "Influence of Culture Medium Supplementation of Tobacco NT1 Cell Suspension Cultures on the N-glycosylation of Human Secreted Alkaline Phosphatase" (*Biotechnol. Bioeng.* 97(6):1585).
- ❖ **Michael Shuler's** paper on "Real-time fluorescence detection of multiple microscale cell culture analog devices in situ." (*Cytometry A* 71(10):857) describes a novel portable, flexible, combination optical and microfluidic device for *in situ* fluorescence measurements of cellular response to a chemical.
- ❖ **Jeffrey Varner** published an article demonstrating the use of mechanistic mathematical modeling to pinpoint key mechanisms for drug targeting despite model uncertainty entitled "Computationally Derived Points of Fragility of a Human Cascade Are Consistent with Current Therapeutic Strategies" in *PLoS Comp. Biol.* 3(7): 1347.

CAT Researchers in the news:

[Gary Harman](#), Professor of Horticultural Sciences in Geneva: "Plants, from pennycress to willow, have potential to clean up polluted soils, researchers are finding"
<http://www.news.cornell.edu/stories/Oct07/plants.heavy.metals.ig.html>

[Claudia Fischbach-Teschl](#), Assistant Professor, Biological and Environmental Engineering: "By growing 3D tumors, CU researcher develops realistic cancer growth models"
<http://www.news.cornell.edu/stories/Nov07/fischbach.tumor.aj.html>

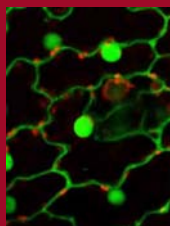
[Drew Harvell](#), Professor, Ecology & Evolutionary Biology: "Major international study warns global warming is destroying coral reefs and calls for 'drastic actions'"
<http://www.news.cornell.edu/stories/Dec07/climate.kills.coral.sl.html>

[Anthony Hay](#), Associate Professor, Microbiology: "What goes down the drain, from ibuprofen to soaps, gets turned out to pasture via toxic sludge, researchers warn"
<http://www.news.cornell.edu/stories/Jan08/sludge.toxic.sl.html>

Almost completed:

Weill Hall

- ❖ Named for [\\$50M gift](#)
- ❖ See for yourself!
http://www.pdc.cornell.edu/pdc/enq/stpm/pdc_webcam_1stbeast.cfm
- ❖ Plaque and redwood tree will be planted in honor of Margaret Arion, former Executive Director of the CAT



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