



News from the Center for Life Science Enterprise



Spring 2007

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



Note:
The next CAT advisory Board
Meeting is May 14, 2007

Staff changes

Margaret Arion has retired from Cornell University after many years of dedicated service, having provided our program with a continuing vision and energy as Executive Director of the Center since 1983. Although we will miss her wisdom and experience, we welcome Linda Carr as the new Executive Director. Linda has worked at Cornell for 22 years and was most recently director of financial operations for clinical programs and professional service at the Veterinary College. Linda brings with her a combination of strong managerial, systems, and planning and analysis skills with an intimate familiarity with the University system. Her extensive background in finance and budget, human resources, and project management promises to serve the CAT well.



Pre-Seed Workshop Successes

Next scheduled dates: March 30th and April 13th 2007 in Ithaca



This workshop is designed to help develop technology-based ideas into commercial realities by putting an experienced team of entrepreneurs and business experts to work on each idea. We will accept six Idea Teams for this Workshop. Over the past two years, out of nineteen Idea Teams, we have had thirteen start-up companies formed by participants! Click on <http://www.oed.cornell.edu/preseedworkshop/> for more.

Call for Proposals '07-'08: CAT and Innovation grants

[NYSTAR](#) Center for Life Science Enterprise announced their annual call for proposals. Deadline for submission was March 15, awards will be announced April 25, and funding will begin July 1, 2007. See http://www.biotech.cornell.edu/index.cfm/page/cat/rd/0607_RFP.htm for details.

Grants for Growth awarded to Cornell affiliates and CAT-assisted companies:

Matt DeLisa and Vybion were awarded a grant to develop a technology platform for the creation and manufacturing of high-affinity synthetic antibodies using bacteria.

Many CAT Inventors Recognized at Cornell: see

<http://www.news.cornell.edu/stories/Nov06/inventors06.ws.html>

See the Center for Life Science Enterprise homepage at
<http://www.biotech.cornell.edu>

FACULTY VIGNETTES



- B.S., University of Connecticut (1996)
- Ph.D., University of Maryland, College Park (2000); M.S., (1998)
- NYSTAR James D. Watson Young Investigator Award (2004)
- NSF CAREER Award (2005)
- Beckman Foundation Young Investigator Award (2005)

Dr.
Matthew
DeLisa

Matthew DeLisa has received numerous awards and honors, including Technology Review's TR35, Top 35 Innovators Under Age 35 (2005), and a National Academy of Sciences invitation to "Frontiers of Science" (2005). His research focuses on engineering microorganisms with new or improved protein machinery to help solve problems which cannot be solved using natural systems, and includes functional genomics, protein engineering, and molecular biotechnology. In collaboration with [Vybion, Inc.](#) DeLisa is developing a platform technology that enables the isolation of de novo proteins that are both structurally stable and biologically active. For more information, see Matthew DeLisa's [webpages](#).

Dr. Drew
Harvell

- B.Sc. Univ. of Alberta, Edmonton (1978)
- PhD Univ. Washington, Seattle (1985)
- Professor and Curator of Invertebrates, Department of Ecology and Evolutionary Biology, Cornell University
- See Drew Harvell's [webpages](#).



Drew Harvell's current work is focussed on chemical and structural mechanisms of disease resistance in Caribbean sea fan corals. These soft corals are heavily endowed with biologically active compounds that are anti-fungal, anti-bacterial and deterrent to fish and some invertebrate predators. Because fungal infection poses economic challenges in agricultural systems, and *Aspergillus* is a prevalent and poorly diagnosed opportunistic pathogen of humans, potential drugs against the fungus are in great demand. The global market for effective antifungal agents is \$3 billion, and there is a notable lack of pharmaceuticals effective against *Aspergillus*. In collaboration with [Advion BioSciences](#), Harvell is separating and characterizing the active antifungal compounds of coral extracts to pinpoint increased expression or novel biosynthesis of unique, bioactive compounds. For more, see also the recent [Cornell Chronicle](#) article about her work.

For more research going on at Cornell, see <http://www.cornell.edu/research/>
Go to <http://www.cctec.cornell.edu/> for more on commercializing Cornell technologies.

NEWS and EVENTS

Biotechnology Management & Entrepreneurship Seminar Series

Location: G01 Biotech Bldg, Cornell

Date: Wed. March 21, 2007 5pm-6:30pm

“The Paradox of Academia and Commercialization: Recent Findings from the Kauffman Foundation” Featuring Lesa Mitchell, Vice President of the Ewing Marion Kauffman Foundation, and Rob Chernow, Vice Provost of Entrepreneurship at Rensselaer. Videofed from RPI in Troy. [Videobroadcasts](#) are now archived from last season. Did you miss one of these excellent talks? Catch up now, and be assured that this season’s lineup will be available for viewing at your convenience. Email sv27@cornell.edu to get on the mailing list for live videofeeds as well.

Entrepreneurship @ Cornell Celebration 2006 Dates: April 19-20, 2007

Location: Statler Auditorium and Ballroom and ILR Conference Center

Join Cornell's Entrepreneurship community in the second annual celebration of entrepreneurship, bringing together students, alumni, faculty and staff. Hear the keynote address by Entrepreneur of the Year Kevin McGovern, Johnson School Business Idea Contest (BIC) winners announced or visit the Entrepreneurship@Cornell Resource Expo, and much more. For the full agenda, and to register, click on <http://epe.cornell.edu/>

CEAA Engineering Conference

Dates: April 20-21, 2007

Location: Statler Hotel Ballroom Lobby

“The Impact of Globalization on Business and Technology” Hear speakers from Pfizer, Lockheed Martin, IBM, Xerox, Flextronics and more.

- ❖ Go to <http://www.engineering.cornell.edu/alumni-parents-friends/ceaa/Engineering-Conference/2007-Engineering-Conference.cfm> for details.

Poster competition

Date: May 14, 2007 afternoon

The annual **CAT Advisory Board Meeting** will be held in conjunction with the Center for Life Science Enterprise poster competition and symposium. This year we will have a competition for the best posters with a grand prize awarded to the faculty member who best communicates their project themes and results to a lay audience (\$\$\$!). Don't miss this chance to really understand the science behind research conducted through the Center for Life Science Enterprise! Details will be forthcoming on our website, www.biotech.cornell.edu.

POP Symposium 2007

Dates: May 21-22, 2007

Location: Statler Auditorium / Duffield Atrium

“Exploring Partnerships between Cornell Scientists and Industry” 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.

Mark your calendar:

The annual Healthcare and Biotechnology Symposium will be Nov. 16, with the theme centering on Innovation. Executive level speakers on R&D, Deal-Making and Marketing will be featured.

Selected Center funded research results and publications:

- ❖ **DNANO Systems** has won 2nd place at the 4th Purdue University Life Sciences Business Plan Competition (\$20,000 in cash and \$8,000 in services).
- ❖ **Matt DeLisa** and **Vybion** have completed a license agreement to market a suite of technologies developed in the DeLisa lab under the title “Procode™ Technologies”.
- ❖ **Yung-Fu Chang** and colleagues published in [J. Vet Sci. 7\(4\):355](#) the results of antimicrobial susceptibilities of spirochetes that cause leptospirosis and Lyme disease to

See the Center for Life Science Enterprise homepage at <http://www.biotech.cornell.edu>

NEWS and EVENTS

commonly used antimicrobial agents. Tilmicosin showed promise as a superior antibiotic to amoxicillin and enrofloxacin.

- ❖ New vaccine candidate against infection by *Leptospira*, published in [Infection and Immunity 74\(3\):1745](#) by **Yung-Fu Chang** and colleagues.
- ❖ **Mingming Wu** and **Matthew DeLisa** revealed collective bacterial dynamics by tracking populations of *E. coli* in 3-D. See [Appl Envir Microbiol 72\(7\): 4987](#).
- ❖ **Mingming Wu** and colleagues used a novel microfluidic flow chamber to measure drag forces needed to detach bacterial cells, proving its usefulness for studying the role of pili in bacterial cell attachment in nature. See epub [Appl Environ Microbiol Feb 9, 2007](#).
- ❖ **Christopher Umbach** and **Dan Luo** demonstrate enzyme catalyzed assembly of a DNA hydrogel with colleagues in [Nature Materials 5:797](#). These hydrogels can be tailored for applications such as controlled drug delivery, tissue engineering, 3D cell culture, cell transplant therapy and other biomedical applications.
- ❖ **David Putnam** published a review article on “Polymers for gene delivery across length scales” in [Nature Materials 5 \(6\):439](#). He also has two papers in *Biomacromolecules* 7:3229 and 3245 on his CAT funded research creating functionalizable biomaterials based on dihydroxyacetone, and one in *J Controlled Release* 116:227 defining the parameters for optimal DNA delivery into various cell lines using polyethylenimine variants.
- ❖ **Rory Todhunter** published in [Mammalian Genome 16:720](#) on hip dislasia in dogs.

OUTREACH and EDUCATION:

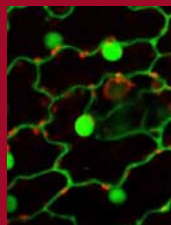


E. Weil

- ❖ **Mingming Wu** incorporated her new hydrogel based microfluidic device designed with [Kionix](#) for studying cell migration into a lab course in the Biomedical Engineering department.
- ❖ **C. Drew Harvell** developed a hands-on marine ecology/chemistry/microbiology module entitled “Guns and Germs of Marine Invertebrates” presented in the Ithaca Sciencenter Summer Camps Programs and to the Finger Lakes Girl Scout Mini-Conference on Marine Biology and Oceanography.
- ❖ In December, the **Equipment Lending Library** hosted a 3-day school visit for 60 high school students. They did a number of experiments while on campus, including a forensic DNA lab that simulates a paternity case. Last year 2893 students across New York State did hands-on science using [Cornell Institute for Biology Teacher \(CIBT\)](#) labs and equipment thanks in part to CAT funding.
- ❖ In collaboration with the Cornell Center for Materials Research **Geoff Coates** and a student in his laboratory participated in the Research Experience for Teachers, performing science demos teachers can take home to their classrooms.
- ❖ Since June, the **Life Sciences Core Laboratories** offered services to over 200 users and visitors comprising of students, visiting faculty, companies, and librarians.

Progress on the New Life Sciences Building

❖ See for yourself!
Visit the webcam site below:
http://www.pdc.cornell.edu/pdc/eng/stpm/pdc_webcam_1stbeast.cfm



Contact us:

Kelvin Lee, Director	biotech@cornell.edu
Linda Carr	llc2@cornell.edu
Susi Varvayanis	sv27@cornell.edu
Roger Williams	rjw33@cornell.edu

See the Center for Life Science Enterprise homepage at
<http://www.biotech.cornell.edu>