Dear Readers,

Sap is rising and snow is melting…it must be Spring term at Dartmouth! For those arriving back on campus after adventures abroad or returning from off-term jobs/internships, welcome back! For those embarking upon their last term here at Dartmouth before entering the real world, enjoy yourselves and feel confident in these next steps. For everyone in between – it is good to have you back!

As you will read, there is already quite a lot going on this term, including Dartmouth’s Lego Leagues’ Girls’ Connect on April 5 and Thayer School Open House on April 11. Dimensions weekend for prospective students is April 17 – 19 and all should be thinking ahead to the Wetterhahn Science Symposium, scheduled for Thursday, May 22 – 23. Please mark your calendars!

Many students are still considering their plans for this summer. For those of you looking for off-campus opportunities, be sure to check out the general advice and specific opportunities listed in WISP’s 2008 Summer Opportunities Bulletins posted on our website (www.dartmouth.edu/~wisp). Though some deadlines may have passed, it is still worth contacting research sponsors or internship opportunities that pique your interest. If the position is already filled, you can start laying the foundation for your next summer or leave term opportunity. Be sure to keep checking Blitz bulletins for job/internship postings as well.

The Dean of Faculty Undergraduate Advising and Research office offers numerous funding opportunities to support research activities. For more information go to http://www.dartmouth.edu/~ugar/undergrad and remember that the application deadline for Summer ’08 research grants is April 30.

Please also recall the publication we featured in Issue 12 in late February: "Beating the Odds – Remarkable Women in Science," a collaborative effort by the L’Oreal Corporate Foundation and Science Magazine (http://sciencecareers.sciencemag.org/career_development/tools_resources/l_oreal_women_in_science_booklet), which features a collection of inspirational stories about women scientists. In particular, the “Wanting, Believing, Doing” introduction on page two is an appropriate theme for young scientists as they navigate their way through their career and academic goals.

As this last day of March signifies the end of Women’s History Month, it is particularly relevant, and we encourage you to look through it to garner some inspiration during this final stretch of the 2007-2008 school year. In the words of Eleanor Roosevelt:

“No one can make you feel inferior without your consent.”

Keep making history and make it a great spring. We’ll be here in Parker House, waiting for the rest of the snow to melt!

Kathy Scott Weaver
Assistant Director
Planning Ahead...

Mary Pavone, Director

Planning Ahead: The Wetterhahn Poster Symposium and the DUJS 10-Year Anniversary

May 22 – 23, 2008: Fairchild Science Center

Every May, Dartmouth College celebrates undergraduate scientific research by hosting a science poster symposium named for the late Karen E. Wetterhahn, Professor of Chemistry and co-founder of the Women in Science Project (WISP). All undergraduates – women and men, whether part of an organized research program, such as WISP, HHMI Scholars, Presidential Scholars or senior theses, or even those doing an independent research study – are invited to prepare and exhibit a scientific poster for the 2-day event. This year the Symposium is jointly celebrating the 10th anniversary of the Dartmouth Undergraduate Journal of Science (DUJS).

The symposium attracts hundreds of attendees to Fairchild Tower to talk with student researchers about the work that excites them. Undergraduates, graduate students, faculty, administrators, high schools and the general public come to hear the keynote speaker and browse the poster session. This is a "heads-up" to all of you who have been doing research: you are invited to communicate your science!

Stay tuned to the next newsletter for information on registering for the symposium and a poster prep session.

P2P: Peer Mentor Program

Kristine Specht ’09 and Emily Frank ’08

Welcome back to Spring term! We've got a few great programs in the works already, and hope to get everyone involved this term. Here's a preview of what's coming up:

First, there is a Faculty-Student dinner planned for sometime in mid to late April. Specific professors haven't been booked yet, but we can already promise good food, great conversation, and an opportunity to see female science professors in a more relaxed and candid setting than in the classroom.

Secondly, for those of you hosting prospective students during Dimensions that are interested in the sciences, we're planning PMP Diner's Club for the night of Thursday the 17th from 7:15-8:30. Prospie or not, you and your mentor/mentee are welcome to attend.

Last, WISP is taking part in the student activities fair during Dimensions week. We're hoping to get a couple of active members of the Peer Mentor Program to represent WISP. If you're interested in attending the event and becoming involved, blitz us!

We encourage you to meet with your mentor/mentee! Take advantage of the spring weather and the abundance of campus events this term. If you have any questions or issues please blitz the WISP account with PMP in the subject line.
MentorNet Update

Ever wonder what working in industry is like? About grad school? How you’ll manage a career and a life?

MentorNet’s award-winning One-on-One Mentoring Programs pair engineering and science students with professionals in their field. Dartmouth students, postdocs, and faculty are eligible to join.

• Communicate by email about career goals, course work, and many other topics.
• Spend just 20 minutes a week and receive advice and support from somebody working in your field; build your pre-professional network.
• Take part in a lively online community of professionals and students all over the world.

How to Join:
1) Join and sign into the MentorNet Community (http://www.mentornet.net/join)
2) Follow the One-on-One Mentoring Programs links to create a protégé profile.

From MentorNet News: The Mentoring Gap for Women in Science

Differences between the ways male and female science students relate to mentors could have a significant impact on efforts to attract more women to certain fields, according to a new study focused on chemistry and published in the journal Sex Roles.

The study tracked those who graduated from top doctoral programs in chemistry from 1988 to 1992, and asked the graduates a series of questions about their experience with mentors, finding notable differences. Authors of the study say that while much has changed in society since the period studied, the findings are consistent with more recent analyses of women in science, and also promote understanding of a generation of women currently in academe.

Among the findings:

• Reflecting on their undergraduate years, men were more likely than women to remember receiving help from a professor (62% for men and 54% for women).
• Asked who helped them the most in selecting a graduate school, 83% of men and only 71% of women cited a professor. The percentage reporting that they helped themselves or that no one helped them was nearly double for women (15%) as for men (8%).
• A higher proportion of women (35%) than men (24%) would have used different criteria to select a dissertation adviser, given the choice again.
• A higher proportion of men (79%) than women (63%) relied in part on advice from their dissertation adviser on selecting a postdoctoral adviser.

Cumulatively, the authors suggest, these results point to the ways that mentoring differences affect the experience of female science students throughout their educations.


Computers, ninjas…and parrots? A CS graduate student tells all

By Bridget Alex ’08, WISP editor emeritus

This is the first in a two-part series illustrating Sara “Scout” Sinclair’s work in the field of computer science, and her impact as a WISP mentor.

Although typically a hub for current and aspiring computer scientists, the basement of Sudikoff has also been host to Vikings, ninjas, and an inquisitive Pacific Parrotlet bird. These eclectic lab members – along with a strong field of research in computer security – are all due in part to CS graduate student, Sara “Scout” Sinclair. In her third year at Dartmouth, Sinclair’s research surrounds the human effect on access control. In addition, she actively mentors three WISP interns, whom she affectionately calls the “ninjis.” Sinclair intends to continue her research and mentoring by pursuing a career in academia. However, the decision to pursue a career in academics was not made overnight: the ambition developed over incremental stages, as she gradually realized which ingredients were essential for a personally fulfilling career in computer sciences.

As an undergraduate at Wellesley College, Sinclair discovered computer science early and completed internships in programming. Although she found the work to be stimulating, Sinclair said that she felt “disillusioned by the notion of becoming a programmer” because it “doesn’t feel like it’s impacting the world.”

Then a seminar introduced Sinclair to computer security—a sub-discipline that absolved her reservations regarding a career in computer science. This niche of CS weaved “elements of psychology, sociology, politics, ergonomics, biology, and a million and one other things… that made my interest in CS much more relevant to the real world,” said Sinclair.

Fast-forward to graduate school, where another element of Sinclair’s ideal career became apparent. At Dartmouth, she joined the PKI/Trust Lab under advisor Sean Smith. Although she is involved in multiple projects, much of her research contributes to the Insider Threat Project, a multi-institutional collaboration focused on ameliorating security breaches caused by insiders. Much effort has been directed toward protecting infrastructures from external attacks, but this project uniquely considers the potential for insiders to leak classified information. These security failures may be accidental or malicious, but the consequences are equally severe—unauthorized access to information such as bank accounts and government documents.

The Insider Threat Project is funded by the Institute for Information Infrastructure (I3P), a consortium of geographically-diffuse institutions, allied in research. Managed by Dartmouth, the I3P connects academia, industry, and government in a mutual pursuit of cyber and electronic security. I3P members meet regularly to exchange findings and report on their research’s progress. Last spring, Sinclair organized a “mini-conference” for the group about insider threat. The proceedings are about to be published into a book, Insider Attack and Cyber Security: Beyond the Hacker, of which Sinclair served as an editor. At another I3P conference later this month at the University of Indiana, Sinclair will give a presentation and demonstrate stimulation software that she has developed. Leading industry officials will attend, as Sinclair’s work is pertinent to many companies’ economic health.

Lecturing industry bigwigs and editing books, however, are intermittent hiatuses in the never-ending research that is Sinclair’s daily life. She is interested in how and why individuals neglect security measures, especially
On-Campus News & Events of Interest

Love LEGO's? Robots? Kids?

This spring, the new Dartmouth Lego League [co-directed by Caitlin Johnson ’10 and Phil Wagner ’09] is holding two events to get children from local schools interested in FIRST Lego League. FIRST Lego League is a fun robotics competition for elementary- and middle-school students. The students (with help from Dartmouth volunteers like you!) build and program robots made of LEGO's to perform simple tasks.

We're holding two events in the spring, "Girls Connect" on April 5th and "Kids Connect" on April 26th, designed to recruit new Lego League teams for the upcoming FLL season this fall. That's where you come in! In order to make these events run smoothly, we're looking to get as many volunteers as possible to help out at one OR both of them. It will be a great chance to meet some really fun kids, build some really cool robots, and, of
course, play with tons of Legos! (And who doesn't love Legos?)

Here's what you need to know:

- **Girls Connect** will take place from 8am - 4pm on **Saturday, April 5th**, and
- **Kids Connect** will take place from 8am - 4pm on **Saturday, April 26th**.

Help at either one of these events would be greatly appreciated, and if you want to help out at both, that's even better!! But don't worry, you don't have to stay the entire time if you're unable -- every little bit will help! No knowledge of programming is needed, we'll teach you everything you need to know.

Blitz LEGO for more information!

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**Engineering revealed! Thayer School of Engineering Open House**

**Friday, April 11, 2008, 5:30-8:00pm**

Every spring Thayer School welcomes the public into our laboratories and work areas to see engineering in action. Tour our student project labs in our new MacLean Engineering Sciences Center. Visit our machine shop, laser lab, ice lab, bone lab, ethanol lab, Dartmouth Formula Racing and Formula Hybrid™ workshop, and much more! For more information please email Jenna.Wheeler@dartmouth.edu or call (603) 646-3677.

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“**Engineering and Politics**

*An Essay by Dean Joseph J. Helble, Thayer School of Engineering*

As the political season heats up, it is clearer than ever that engineering and public policy—engineering and politics—shouldn't be viewed as separate worlds. Engineering is critical not just for creating technical solutions, but for informing public debate and shaping public policy.

Right now, however, technical talent on Capitol Hill is sparse. Only 4% of senators and 7% of the members of the House of Representatives have college degrees in science or engineering. Congress regularly debates bills on highly complex, technology-related issues—including energy policy, fuel economy standards, climate change, asbestos use, cybercrime, food safety, spyware, underground mines, and embryonic stem cell research—but few legislators bring technical expertise to their deliberations.

Why does this happen? Unfortunately, students who are drawn to technology often have little interest in politics. And for those who do, their training, which at most institutions remains narrowly focused on solving technical problems, does not show them that engineering or science can be relevant to public policy.

At Dartmouth we are trying to change that. Thayer school and the public policy program at the Rockefeller center have developed a new modified major: engineering and public policy. Students will study the core of the engineering curriculum as well as the core policymaking curriculum. It is a program for the aspiring public servant who realizes it will be useful to understand technology—and for the engineer who realizes that public policy affects which technologies are funded and chosen for development and adoption.

Energy technology is a case in point. Speakers at our recent Dartmouth energy symposium outlined an array of alternative energy technologies to reduce our national dependence on oil—including solar thermal technology, fuel cells, systems to capture waste heat, cellulosic ethanol processes, compressed air energy storage, and development of improved building materials. Scientists, investors, and venture capitalists alike noted the nation’s need for government funding of early-stage research and development of promising
technologies, and therein lies much of the challenge. As one speaker pointed out, politicians are more comfortable supporting the general idea of energy independence than assessing the specifics of how to get there.

This is why engineers need to be involved. We need to equip our students with the technological and public policy skills to make substantive contributions to this discussion. All of us with technical backgrounds should do our part to shape the decisions we entrust to congress. Our collective future depends on it.

*Joseph Helble is the Dean of the Thayer School of Engineering. For more information regarding Thayer School’s new engineering programs for undergraduates and graduates, please contact him for more information. This article was reprinted with permission from Dartmouth Engineer (Volume 1, Number 4).*

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**Dartmouth team writes book on gender egalitarian hunter-gatherers**

In the 1970s, the Batek people of the Malaysian rainforest were living much as their ancestors probably had for thousands of years: in groups of families, moving every few weeks to a fresh spot from which to hunt small game, dig tubers, and gather forest products for trade with outsiders.

Wide-scale logging of the Malaysian jungle in the 1980s decimated all but a fraction of the Bateks’ land and left the remaining forest crisscrossed with intrusive logging roads. Yet, unlike many other indigenous peoples, the Batek have been able to hang on to their traditional way of life.

This people’s story is the subject of a new book by a Dartmouth College husband-and-wife team, Kirk and Karen Endicott, who are among the leading authorities on this group. *The Headman was a Woman: The Gender Egalitarian Batek of Malaysia* (2008, Waveland Press, Inc), recounts ethnographic observations the Endicotts made during stints of fieldwork spanning nearly four decades. The book is accompanied by a 37-minute DVD, *The Batek: Rainforest Foragers of Kelantan, Malaysia*.


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**Off-Campus News & Events of Interest**

**Where are the women in tech?**

EVA TAHMINCLOGLU, MSNBC.com

When it comes to technology, female consumers can’t get too mad when they surf a Web site that’s hard to navigate or their cell phones aren’t designed to cradle easily between their shoulder and ear. Why? Because there’s a high probability there were few if any women on the technical team that designed that Web site or wireless phone.

Women have not been flocking to the profession of information technology, even though women are bigger consumers of technology than men. In fact, the number of women in the IT field and those who are heading to college to pursue technology degrees is actually on the decline.

Renee Davias, a software-applications director at a New York-based law firm, sees this every day. Often she
wishes there were more women in her IT group and in the profession overall. One of only two women in an 11-member development team, she likes working with her male colleagues but believes another female or two could help the team dynamic. "With the men sometimes, they're trying to see who can pee the highest on the hydrant," she says, speaking metaphorically, of course. "Women are much more matter-of-fact, more collaborative."

Read the rest here: http://msn.careerbuilder.com/custom/msn/careeradvice/viewarticle.aspx?articleid=1319&SiteId=cbmsnbc41319&sc_extcmp=JS_1319_msnbc&GT1=23000&cbRecursionCnt=2&cbsid=72ea34cf4f454ede9a136cd5769b67a5-260250258-R8-4

Jobs & Grants

The jobs and internships listed below are only a sample of the opportunities available. Please monitor department Blitz bulletins as well as Career Services, Engineering Career Services, Computer Science Jobs & Internships, and check out WISP's 2008 Summer Opportunities Bulletin posted on the WISP website. Good luck!

Energy Policy Internship at NCEP – Washington, DC

Application Deadline: April 4, 2008

The National Commission on Energy Policy is a bipartisan group of 20 of the nation's leading energy experts - representing the highest ranks of industry, government, academia, labor, consumer and environmental protection. The Commission seeks to identify and address the political and analytical barriers that have thwarted previous efforts at energy policy reform and conduct extensive outreach to government, business, NGO and other communities. For more information, please visit www.energycommission.org.

Conduct research on pertinent energy policy topics in Washington, D.C. at NCEP's office headquarters. Two fellows will be selected annually in a competition seeking innovative research proposals that address designated topics pertaining to current U.S. energy strategies. Those two students whose proposals are accepted will be invited to serve as interns at NCEP in Washington, D.C. for a 10-week period during the summer. Interns will split their time between bringing their research proposal to fruition and engaging in NCEP's normal business activities, which includes energy policy and technology research, advocacy, and other related endeavors. Each selected student will receive a $5,000 stipend for the 10-week summer internship.

The research proposal must not exceed 3 pages. Projects must be related to one of the following topics: low-carbon energy technology research, development, and deployment; land use issues with biofuels; nuclear power; government role in adapting to climate change, or energy security

For more information, go to http://www.bipartisanpolicy.org/ht/d/sp/i/1120/pid/1120

Oncology Research Fellow – Mount Sinai School of Medicine, NYC

Dr. Johnny Hao’s laboratory in the Department of Radiation Oncology at Mount Sinai School of Medicine focuses on developing therapies that increase the efficacy of radiation therapy as a treatment of cancer. There are three main research efforts:
1) In vitro drug screening: High throughput screening has not been extensively applied to radiation oncology. We have developed a new automated approach to analyzing cells treated with radiation and experimental drug therapy. We are currently testing whether new drugs that we have identified are effective therapies against cancer cells.

2) Radiation and immune therapy: In collaboration with the Department of Gene and Cell Medicine, we are investigating whether radiation enhances immune therapy to treat currently incurable cancers. We anticipate performing experimental radiation and immune therapy on mice bearing tumors to determine whether radiation in combination with immune therapy is more effective than either treatment alone.

3) Clinical trials: We believe that we can develop more effective treatment for stage IV cancer by combining radiation with new drugs that specifically target abnormalities on cancer cells. We have developed three phase I/II clinical trials for patients with locally advanced head and neck cancer, recurrent head and neck cancer and patients with metastatic cancer. These are extremely novel combinations that have not been previously tested.

Job responsibilities: Assist principal investigator on basic and clinical research. Will learn antibody-based research techniques, digital microscopy, experimental radiation and drug therapy, high-throughput robotic liquid handling and clinical trials.

Requirements: Interest in cancer research, willingness to learn and work independently

Benefits: Full Mount Sinai employee benefits, including paid vacation and employer sponsored health and prescription plans. All previous members of the laboratory have successfully sought their desired graduate or residency positions.

To Apply: Email resume, cover letter and references to johnny.kao@mountsinai.org

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**On-Campus Calendar**

**March 30 – April 19**

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PHYSIOLOGY SEMINAR SERIES
"Female Reproductive Tract Stromal Fibroblast Secretion of HGF and SDF-1 by Estradiol and Poly(I:C)"
Date: Wednesday, April 2, 2008
Place: Auditorium E
Time: 4:00 PM (Coffee at 3:45)
Speaker: Kimberley D. Coleman, B.S., M.S. Graduate Student, Dartmouth Medical School

JONES SEMINAR
"Innovations in Over-Snow Cargo Transport to South Pole"
Date: Friday, April 4, 2008
Place: Spanos Auditorium (Room 100) Cummings Hall
Time: 3:30 pm Seminar, 3:15 pm refreshments
Speaker: James Lever, U.S. Army Cold Regions Research and Engineering Laboratory (CRREL)

BIOLOGY SEMINAR SERIES
"A timely coincidence: diurnal regulation of plant growth"
Date: Friday, April 4, 2008
Place: 101 Gilman
Time: 4:00 PM (Refreshments at 3:30 in Gilman Lounge)
Speaker: Julin Maloof, Ph.D., University of California, Davis
Host: Rob McClung