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UNIVERSITY OF ROCHESTER **COMPUTER SCIENCE DEPARTMENT** NEWSLETTER

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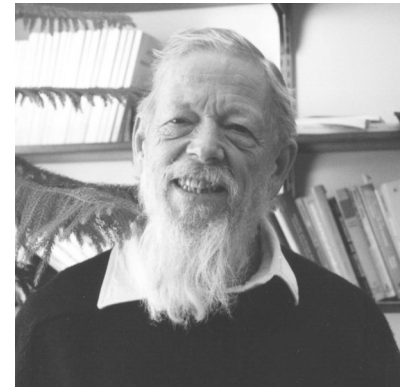
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Henry Kyburg, Jr. 1928-2007 In Memoriam

The Department of Computer Science acknowledges the death of Henry Kyburg, Jr., one of its most illustrious members, with great sadness and sense of loss. Henry died of acute pancreatitis Oct. 30 at the age of 79 at Strong Memorial Hospital.

Henry joined our department as a cross-appointed faculty member in 1986, when he was already a famed philosopher of science and epistemology, holding the position of Burbank Professor of Moral and Intellectual Philosophy at our University.

Both in philosophy and computer science, his focal interest was in uncertain inference. In particular, he developed in great depth an approach to uncertain inference founded on the use of interval-valued



evidential probabilities, and on a probabilistic principle of acceptance. His goals were not only theoretical, but also thoroughly practical, for example in his efforts towards building an assistant that would learn from samples and would be capable of both statistical computations and uncertain inference based on general knowledge. Henry's student and long-time collaborator Choh Man Teng recalls her initial encounter with him as a first year student. "Henry introduced himself to the (CSC400) class by saying that he lived in Lyons... and that he had a lot of cattle. Then he showed us how to use evidential probability to get a fair insurance quote for one's cattle in Lyons."

Apart from its grounding in practical considerations, his work was characterized by an unerring clarity of thought, a profound scholarly command of the literature and intellectual currents in formal philosophy, epistemology and computational approaches to uncertain inference, a sharp critical eye in his assessments of the uncertain inference landscape, and a high-octane, unflagging creative energy in the pursuit of his scientific goals. Among his numerous books and other scholarly writings, many are standard references and indispensable to scholars and researchers in philosophy of science, epistemology and uncertain inference. Examples of his best-known titles are *Probability and Inductive Logic* (1970), *The Logical Foundations of Statistical Inference* (1974), *Epistemology and Inference* (1983), and *Uncertain Inference* (with Choh Man Teng, 2001). Henry had a nearly-finished manuscript for a book on epistemology. Former students Choh Man Teng, Gregory Wheeler and daughter Alice Kyburg plan to prepare it for publishing posthumously. In addition, there will be a special issue of *Synthese* focused on Henry's work. Among his many honors are a Guggenheim Fellowship, and election as Fellow of the American Association for the Advancement of Science, the American Academy of Arts and Science, and the American Association for Artificial Intelligence. In May 2007, Henry received the University Award for Lifetime Achievement in Graduate Education.

Henry Kyburg was a man of great breadth, who matriculated in chemical engineering before entering philosophy, began his teaching career as an assistant professor of mathematics, added computer science to his expertise in mid-career, and at the same time (as may be gathered from Choh Man Teng's comment) ran a thriving cattle farm with his wife Sarah. He also pursued vigorous sports such as hockey, sailing, tennis and scuba diving throughout most of his life. Teng recalls a day at the cattle farm when Henry asked her to help him pitch hay. "I was out flat after 15 minutes and three bales. Henry continued to throw the bales around the rest of the afternoon. Many in the URCS community know the damage they might sustain if they tried to block Henry on the ice hockey rink. He also bench-pressed a terrifying amount of weight at the gym. He was rock solid." In the last 8 years, Henry also managed to hold not only his Rochester positions, but also spend part of his time as

(see Kyburg, page 9)

Awards and Promotions



Lane Hemaspaandra receiving award

The Alexander von Humboldt Foundation selected **Lane A. Hemaspaandra** for a Friedrich Wilhelm Bessel Research Award.

Chris Brown has received a Technology Transfer Award from the Center for Electronic Imaging Science and NYSTAR (now called the New York State Foundation for Science, Technology and Innovation). This monetary award is given to foster academic research and industry collaboration for economic impact. Brown is partnered with Kodak and former student Amit Singhal.

Kai Shen is a recipient of the 2007 IBM Faculty Award.

Henry Kautz was elected fellow of the AAAS in 2007.

Chen Ding has been promoted to Associate Professor of Computer Science.

Michael Scott has been named a Fellow of the ACM.

The paper entitled, "PLOW: A Collaborative Task Learning Agent," was selected as one of two Outstanding Papers for AAAI-07. Authors: **James Allen**, Nathanael Chambers, **George Ferguson**, Lucian Galescu, Hyuckchul Jung, **Mary Swift**, and William Taysom.

Lane Hemaspaandra was named A Distinguished Scientist of the ACM.

Christopher Pal joins A.I. Faculty

Dr. Christopher Pal has joined the Department of Computer Science at the University of Rochester. His research is in the area of pattern analysis and machine intelligence. In a broad sense, Chris' research deals with how we construct algorithms and systems to process, analyze, organize and interact with an ever increasing amount of information. He uses machine learning methods and optimization techniques to develop mathematical models for machine vision, natural language analysis and large scale information processing problems. These algorithms are often directed at enabling new types of human-computer interaction scenarios. For example, his previous contributions include: image registration and analysis techniques for geographic atlases and brain atlases, analysis methods and visualizations for large experiments in computational molecular biology, information extraction techniques for finding facts in unstructured text, algorithms and interfaces for interactive digital photography.

Prior to arriving at the University of Rochester, Chris had already established a research relationship with Kodak. As a result, he is pleased to be closer to their lab in Rochester and is looking forward to further research collaborations with the potential for significant impact on the next generation of intelligent systems. Before arriving at Rochester Chris spent two and half years as a Research Scientist with the Computer Science Department of the University of Massachusetts at

Amherst. He worked closely with their Computer Vision group and the Information Extraction and Synthesis Laboratory. During his graduate studies he was a frequent intern with Microsoft Research's Interactive Visual Media group where he made a number of contributions in the areas of high dynamic range image construction, panoramic image stitching and video indexing.

Chris earned his Ph.D. from the University of Waterloo in Canada. During his doctoral studies he also served as a research assistant at the University of Toronto in the Department of Electrical and Computer Engineering. At Toronto he collaborated closely with the Banting and Best Department of Medical Research. He developed image processing and statistical methods for the analysis of large scale genomics and computational molecular biology experiments using DNA microarrays. As a result, he is also excited about the potential for building new collaborations at the University of Rochester in the areas of bioinformatics and computational molecular biology.

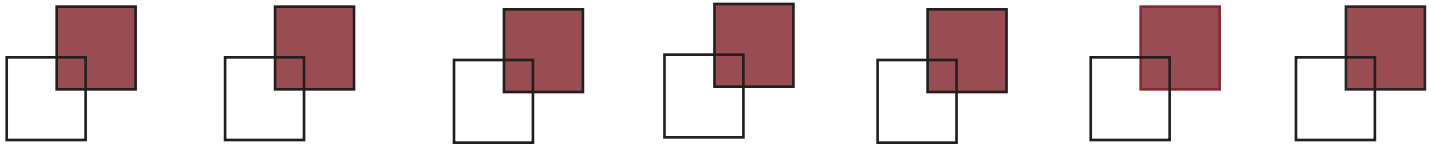
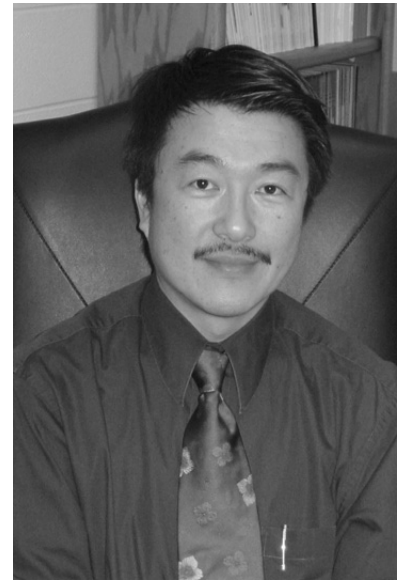


Data Mining Center Attracts Ogihara

Mitsu Ogihara has taken a new position at the University of Miami as of July 1st. He is the Founding Director of Data Mining in the Center for Computational Science and Professor of Computer Science at the Florida institution. The Center for Computational Science is newly formed, and will eventually have programs in bioinformatics, data visualization, computational chemistry, and genomics as well as data mining. Mitsu's position will allow him to identify interesting projects and facilitate research, write grant proposals for funding and continue teaching.

An avid musician, Ogihara is hoping his new neighbor, the new Dean of the School of Music, will help him network with other jazz musicians so his string bass doesn't sit idle. He would like to continue his musical pursuits such as voice and piano lessons as well.

Mitsu will be sadly missed in Computer Science for his caring approach to teaching and advising, his capable department leadership and reliable presence for almost 3 terms as chair, and his productive research. We all wish him and his family well as they begin a new life in the Sunshine State.



Peggy Meeker Retires After 3 Decades of Service



Peg at her retirement party in May

Peggy Meeker retired from URCS in May 2007 after over 30 years of service to the department. She began her career in Computer Science as a student employee in the mid 1970's while completing her degree, and remained as a steady and dependable staff member through three decades. Most recently Peggy maintained all graduate student records and kept the students on track to completion. She also toiled under the pressure of deadlines for grant proposal preparation and published the technical reports for faculty and students.

Peg has been preparing for her 'retirement' for many years as she studied for a second career as a minister in the Unitarian Universalist Church. This coming year she will be completing the last phase of her training after years of part time study at Colgate Divinity School, a one-year internship at a congregation in Canandaigua, NY. Meanwhile, she's enjoying her garden, fine music, her family, recreational reading and a cold beer now and then. We all wish Peggy health and happiness as she transitions from caring for her flock of graduate students to caring for her congregation's spiritual needs.

Intelligent Agents Through the Years

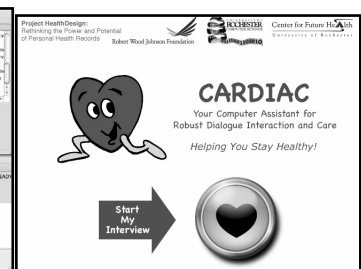
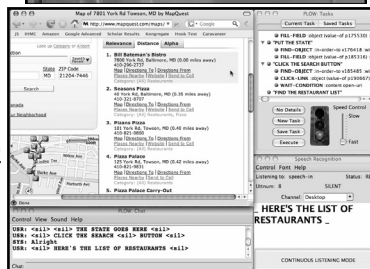
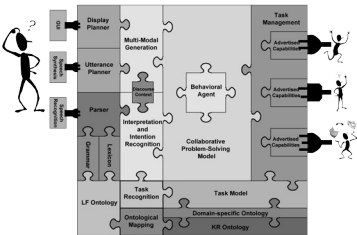
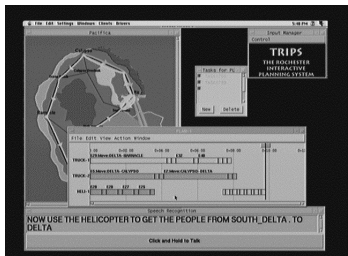
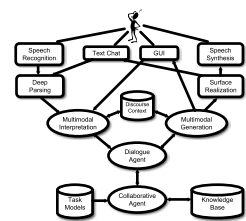
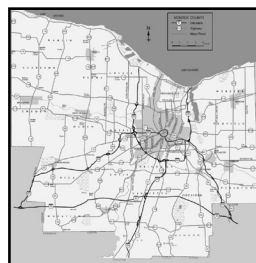
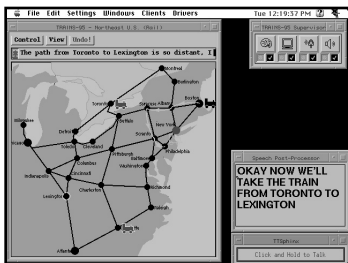
by George Ferguson

As old-timers may remember, I came to Rochester having already been bitten by the AI bug. Ever since a checkers program that I wrote as a sophomore at McGill kicked my butt, I had been intrigued by the prospects of machine intelligence. In the early days, there were two sides to this. The first was an intellectual interest in the nature of intelligence, fueled by early exposure to writers like Wittgenstein, Norbert Weiner, and of course Hofstadter's famous Gödel, Escher, Bach. It all made undergrad philosophy much more exciting (for us, if not perhaps for the profs or other students). But I think that an equally important motivation for me was the fact that AI people just seemed to be tackling the biggest, coolest problems out there. Sure, it was tough to code up an operating system, or write a compiler or device driver, but with those at least you knew more or less what needed to be done. And the only people who would ever care would be other geeks, although that was actually a pretty good motivation for me back then (and sometimes still is).

When I got to Rochester in 1989, there were two traditional strengths within the non-vision part of AI. On the one hand, there was plenty of work on various aspects of automated reasoning, particularly reasoning about actions and plans. I already knew about the work of people like Andy Haas and Henry Kautz. Others around at the time or just finished included Ron Loui, Hans Koomen, Josh Tenenber, Nat Martin, and Leo Hartman. Many of these people were students of James Allen's, and I had been assigned to James upon arrival. What I hadn't known about was the parallel work on natural language understanding, which had long been of interdisciplinary interest, and which was expanding with the arrival of Len Schubert (from the University of Alberta, a year before me). People like Dave Traum and

Massimo Poesio were a year ahead of me in the program and way ahead of me in NL research. Interestingly, one of James' students had been Diane Litman, who had continued James' thesis work on the intersection of planning and NLU for machine understanding of natural language dialogue. But I think it's fair to say that by and large, the automated reasoning work and the NL work weren't tightly coupled.

After surviving my quals (and theory remedial), I just happened to be in the right place at the right time when James and Len decided to start a project called TRAINS. (There had been an earlier project called ArmTRAK, which used NL to control a robot arm manipulating model trains, so maybe trains were the "in" thing.) The idea was to develop an intelligent assistant that would help people plan and carryout deliveries between factories. The system would interact in natural language, which at the time meant typing since speech recognition was impractical for anyone outside AT&T. There would be a graphical map of the trains around the map, cause problems to occur, and so on. To make our toy scenarios more realistic, cities "A," "B," and "C" became Avon, Bath, Corning, Dansville, Elmira, and so on. The main intellectual motivation for the project was to force the automated reasoning and NL people to work together. The AR people would need to try to solve real (albeit perhaps small) problems, not just stacking blocks or solving the Towers of Hanoi puzzle. Meanwhile the NL people would have to try to understand conversational dialogue in a practical way, rather than worrying whether if every man who owns a horse beats it, is there one horse or several. (Actually, it turns out that all of these illustrate important issues that (still) need to be addressed in AI systems.) The first



TRAINS technical reports came out in 1990, and I've essentially been working on the problem ever since.

So I'm interested in designing and building computer systems that can help people solve problems. Seems a bit obvious. Isn't that what computers do? Well, not exactly. Consider a screwdriver. It makes possible all kinds of fastening operations that would be difficult or impossible without it. It's a great tool. But would you say it was helping you? Would you say it was solving a problem? Computers are amazingly powerful tools. They can be made to do all sorts of things (although mostly in the virtual world of information—the real physical world remains a challenge for the most part). But you, the user, need to know when a problem exists, identify that the computer or some program on the computer is the appropriate tool for the problem, apply the tool to the problem appropriately, and verify that the problem has been solved. Furthermore, given the quality and usability of most software, it's probably a safe bet that it won't be easy to use the tool to solve the problem.

Instead of this view of computers as tools, my research program focuses on trying to make working with computers more like working with people. That doesn't mean that they dress up like people or have animatronic faces or need bathroom breaks periodically, although there is plenty of interesting work on these visual and other non-linguistic aspects of interaction (well, maybe not the bathroom breaks part). Building on the Rochester research tradition, I have come to believe that in order to help normal, non-technical people effectively, systems need to (1) interact in spoken natural language, and (2) understand what the people are trying to do and what they, the system, ought to be doing to help. I'll elaborate on each of these briefly.

First, spoken language is a distinguishing feature of human intelligence. People are highly optimized for face-to-face verbal interaction since for most of our existence as a species, that was the only way we could communicate. So it makes sense that we ought to try to take advantage of these human capabilities in designing the interfaces to computer systems. Of course humans have other skills, such as advanced visual processing and recognition. Shouldn't we take advantage of these? Indeed we should, and the best interfaces will combine modalities to communicate most effectively. But note that this requires that the system itself needs to be able to reason about what constitutes effective communication and adapt appropriately to its user and environment. And by the way, traditional GUIs have a lot of words on them, which suggests that there's a linguistic abstraction lurking under the hood, but that's another discussion.

The second aspect of my work centers on what we call "intentional systems." Think about why people do things. At least at higher levels of conscious behavior, we generally assume that people have reasons for what they do. That is, they have intentions and behave intentionally. This intentionality seems to have several purposes, among them making (more or less) rational behavior possible with finite computational resources. But what interests me particularly is that intentionality is what allows people to work together effectively. Compare the frustration of working with a new assistant just starting training to the pleasure of working with an experienced team. A good assistant or teammate understands and anticipates your needs and tries to address them as best they can. Good teammates also know each others' strengths and weaknesses and can negotiate who should do what to achieve the team's goals. If our goal is computer systems that can work for and with people effectively, then we will need to be able to (1) recognize the intentions of people from their utterances and actions; (2) infer what the system ought to be doing for its part; and (3) have the system behave intentionally, including communicating with the people and other computer systems. Perhaps unsurprisingly, these abilities are also necessary for many aspects of natural language interpretation and production, so it all goes together.

The term "agent" is sometimes used to describe computer systems that have these abilities. My research program could be summarized by saying that I'd like to move from thinking about computers as tools to thinking about them as agents. An agent that can communicate in natural language would be what we call a "conversational assistant." Together with James Allen and our group at Rochester and at Institute for Human Machine Cognition in Pensacola, FL we are developing conversational assistants in a number of application domains. The most interesting of these going forward involve conversational assistants that help people manage their own health care outside the hospital. There are huge demographic and technological trends pushing this area, and it is very satisfying to work with patients and help develop solutions to their problems. We currently have projects in this area funded by the National Institutes of Health and the Robert Wood Johnson Foundation, and I am a charter member of Rochester's Center for Future Health, which serves as a focal point for many related efforts.

As I write this, it is almost exactly the eighteenth anniversary of my arrival in Rochester. It's been a great journey from there to here, and I am grateful for having had the opportunity to work on these challenging ideas for so long and in such good company.

Graduate Alumni News and Notes

Boutell, Matt (PhD '05) – “I am entering my third year teaching at Rose-Hulman. One of my undergrads presented our joint work at a Computer Vision conference this summer; it was fun to be on the advising side this time. I worked with some outstanding high school students at Rose’s Operation Catapult, a summer program for students considering science and engineering. Finally, I got to teach Cryptography last term, following in CB’s footsteps.”

Campana, Ellen (PhD '07) – “I’m an assistant professor in Arts, Media and Engineering and Psychology at Arizona State University, Tempe, AZ.”

Eveland, Chris (PhD '03) – “Major news for me is that I got married to Christy Alvord on July 22nd in Santa Fe. Our new address will be in Jacksonville, FL, but I’ll still be working for Equinox in Baltimore (long commute).”

Feist, Steven (MS '88) – “I’m currently working on a Ph.D. at the University of Louisiana at Lafayette.”

Gafter, Neal (PhD '90) – “I’m still a Google employee.”

He, Shan (PhD '07) – “My manager in Amazon.com, Michael McNerny, is also an alumnus of URCS. I work in Amazon.com’s headquarter in Seattle right now.”

Hinkelman, Elizabeth (PhD '90) – “My latest project is SBIR-funded R&D in the area of computer game technology for Army training. For this project I’m working with an expert in the training field, which turns out to be a branch of organizational psychology. There are good reasons to think there’s a cognitive match between the technologies and certain skills such as communication and spatial coordination, but few demonstrated results of this type. I continue to live northwest of Boston with my husband Brad Myers, two Scottie dogs, and my garden patch.”

Istrate, Gabriel (PhD '99) – “As of March 2007, I have moved to the e-Austria Research Institute in Timisoara, Romania. I have received a Marie Curie International Reintegration Grant from the EU.”

McCallum, Andrew (PhD '96) – “I was recently appointed to the CRA Computing Community Consortium. I was also recently named as one of two 2007 recipients of the University of Massachusetts College of Natural Science and Mathematics “Outstanding Faculty Award for Research”.

McInerny, Michael (MS '88) – “I’m currently enjoying my third year as a software development manager at Amazon.com in Seattle (I was promoted last year). I manage two middleware teams that power our e-commerce platform, including the Item Authority team which is responsible for matching third-party product descriptions to other items in our very large catalog using NLP and IR techniques. We

build scalable, highly-distributed software systems out of commodity hardware. The best part is working with all the really bright people, especially the uniformly terrific software engineers (like Shan He, a recent URCS grad!). Did I mention we’re hiring?”

The kids are doing very well -- while the Pittsburgh Magnet schools prepared them academically, they’re very happy and thriving at the excellent Mercer Island school district. In the Fall, we will have two middle-schoolers and two high-schoolers. Taking advantage of some of the unique programs out here, my daughter has flown a plane at the Boeing Museum of Flight (down to Tacoma), and my eldest son has written video games at the DigiPen institute (above Nintendo of America). My wife, Diane is working at the district’s preschool program, with the developmentally challenged children.

The Pacific Northwest is a wonderful place to live -- between the mountains and the sea. We even have bald eagles in our neighborhood! We’ve taken advantage of our proximity to many great natural wonders and cultural sights, as you can see from our travelogue <http://www.mcinerny.org/michael> .”

Olson, Tom (PhD '89) – “I am still at Texas Instruments Corporate R&D. I’ve been working on graphics technology and standards for several years now. In June of last year I was elected chair of the Khronos OpenGL ES working group, which defines the current de facto standard API for 3D graphics on mobile devices. I was promoted to Distinguished Member of Technical Staff in 2005.”

Purav, Chikita (MS '05) – “I am still with Qualys in Redwood Shores. I am currently in the process of transitioning to the Technical Account Management Team here at the same company => I have also just started running! It’s so hard for me to believe (and Mayur will vouch for this!!) I have never been a runner, BUT I have been volunteering with Asha (<http://ashanet.org/>) for a while now. We basically work on projects to educate underprivileged children in India. One of their biggest fundraisers is TeamAsha (<http://www.ashanet.org/siliconvalley/marathon/>) So, I have signed up to fundraise and ... run a marathon!!! I have just completed one month of training and will be running the San Francisco Half marathon later this month!!! I am so excited. It’s supposed to be great fun and running across the Golden Gate Bridge is supposed to be beauuuutiful =>.”

Sanchis, Laura (PhD '89) – died of cancer in April 2006. Colgate University’s Department of Computer Science has created an award “The Laura Sanchis Award for Excellence in Research” in her memory.

Sanders, Brandon (PhD '05) – “I am the Chief Architect at AboutUs, directing the software development.”

Selfridge, Peter (PhD '82) – “After leaving AT&T Labs

Please send graduate updates to JoMarie Carpenter at jomarie@cs.rochester.edu

(previously, Bell Labs) in November of 2000, I spent some time working on a couple of small startups (one dealing with computer animation of faces, the other natural language understanding) and a drug design/computational chemistry company in NYC. In 2003 I joined SET Corporation in Arlington, Virginia and began consulting for DARPA/IPTO (the computer science office). At DARPA I spend my time reading proposals and helping design new programs. SET also does R&D and is growing like crazy, so it's a fun place to work.

My daughter Lauren, 23, started graduate school at UMass Amherst and my son, Benjamin, 17, started Bard College, both this fall. Last year I remarried and moved to Bethesda, MD and have two small children: Sarah, age 2, and Andrew, age 9 months. I hike, backpack, and ski as often as I can. Cheers to all!"

Shandilya, Abhiram (MS '02) – "I've moved to Sunnyvale, CA and am working at Juniper Networks Inc."

Sharek, Greg (MS '99) – "I'm still in Austin, TX, but now at ARM, Inc."

Tang, ChunQiang (PhD '04) – "I have won the Best Paper Award of SCC'06 for the paper "A Distributed Service Management Infrastructure for Enterprise Data Centers

Based on Peer-to-Peer Technology," by Chunqiang Tang, Rong N. Chang, and Edward So. The 2006 International Conference on Services Computing (SCC'06) was held in Chicago, IL USA, in September, 2006."

Watanbe, Yuki (PhD '84) – "I am now with Lehman Brothers (VP in the algorithmic trading group)."

Yamauchi, Brian (MS '90) – Brian Yamauchi is a Lead Robotist with iRobot Corporation, and he is currently developing the autonomous navigation software for iRobot's entry in the DARPA Urban Challenge. iRobot is a member of Team Scorpion, which also includes Raytheon, Preferred Chassis Fabrication, Tucson Embedded Systems, and the University of Arizona. Brian is also the principal investigator for the Daredevil and Sagittarius Projects. Daredevil is funded by the Army Tank Command to develop ultrawideband radar systems that will enable robots to see through foliage. Sagittarius is funded by the Air Force Research Laboratory to develop techniques for UAV/UGV coordination, and is a joint project with Carnegie Mellon's Robotics Institute.

Zhang, Chengliang (PhD '07) – is working at Microsoft in Redmond, WA.

Zhong, Ming (PhD '07) – is working at Google in California.

Recent Ph.D. Theses

Ellen Campana

Arizona State University

*"Natural versus Standardized Approaches
to Spoken System Design:
A comparison using the Dual-Task Paradigm"*

Proshanto Mukherji

Harvard Law School

"Discovering Laws as Anomalies in Logical Worlds"

Shan He

Amazon.com

*"Lexical Generalization for Cross Domain/Corpus
Semantic Role Labeling"*

Chengliang Zhang

Microsoft, Redmond, WA

"Behavior Models for Computer Programs"

Ming Zhong

Google, CA

*"Exploiting Object Usage Nonuniformity in
Distributed Data Management "*

Litman Researches Intelligent Tutors

Tutoring agents focus on Learning



Diane Litman received her A.B. degree in Mathematics and Computer Science from the College of William and Mary in Virginia in 1980, and her M.S. and Ph.D. degrees in Computer Science from the University of Rochester in 1982 and 1986, as a student of James Allen. Currently she is Professor of Computer Science and Research Scientist (Learning Research Development

Center) at the University of Pittsburgh.

She was previously a Principal Technical Staff Member in the Artificial Intelligence Principles Research Department, AT&T Labs - Research (formerly Bell Laboratories). Diane was also an Assistant Professor of Computer Science at Columbia University.

Her research is in the area of artificial intelligence, and includes contributions in the areas of computational linguistics, knowledge representation and reasoning, natural language learning, plan recognition, spoken language, and user modeling.

Though spoken dialogue systems have been a large part of Litman's work at both AT&T and Pitt, the environment and the emphasis have differed. At AT&T's Artificial Intelligence Principles Research Department, where Litman worked from 1985-2001, coworkers were mostly Ph.D.s with research interests centered in speech technology. The research was applied, solving real world problems with automated systems. This resulted in products such as the AMTRAK ticket reservation system and telephone customer service products and patents.

At Pitt Litman's collaborators include graduate and undergraduate students, and faculty in other areas beyond Computer Science. Her immediate research group is much smaller than at AT&T. Her spoken dialogue system at Pitt is used in applications for teaching and learning rather than producing a marketable product. The spoken dialogue system at Pitt is called ITSPOKE (Intelligent Tutoring SPOKEN dialogue system) and is a conversational agent for tutoring conceptual physics. This system hopes to bridge the gap between human-to-human dialogue and human-to-computer dialogue by building a platform to not only investigate speech recognition and natural language understanding but also to understand how computers recognize emotional states and, with machine learning, adapt accordingly.

In addition to natural language research and graduate advising in Computer Science at Pitt, Diane also teaches two courses each semester and has a

joint appointment as a Research Scientist in the Learning Research and Development Center. This interdisciplinary group of psychologists, computer scientists and educators works to perform world-class research on teaching and learning and to apply what they learn, in collaboration with education practitioners, business and government enterprises, and non-profit organizations, to the reform and improvement of instruction and learning in schools, museums, universities and workplaces. Diane's expertise on spoken dialogue systems has been incorporated into this educational research. Another project she contributes to is the Pittsburgh Science of Learning Center, where they have developed LearnLab. Learnlab is a facility designed to dramatically increase the ease and speed with which learning researchers can create the rigorous, theory-based experiments that pave the way to an understanding of robust learning. Run jointly by Carnegie Mellon University and the University of Pittsburgh, LearnLab makes use of advanced technologies to facilitate the design of experiments that combine the realism of classroom field studies and the rigor of controlled theory-based laboratory studies.

Litman models her advising style after her own experience with James Allen. She meets with each of her graduate students individually each week. Her Natural Language Processing lab meets weekly as well. Her teaching style involves presenting meta skills and domain knowledge. Students read research papers, and have class presentations. With group projects, the students learn how to work with others.

Diane's LRDC group (including another former URCS student Joel Tetrault) recently won "Best Paper Award" at NAACL-HLT 2007 for the paper entitled "Exploring Affect-Context Dependencies for Adaptive System Development". NAACL-HLT 2007 was held in Rochester in April, and brought Litman back to Rochester. While in Rochester she visited friends but had limited free time due to the conference schedule. She had returned to campus during the Sesquicentennial celebration in 2000, when she had ample time to explore the old home of CSC, the Hylan Bldg., visit with other alumni and view the changes on campus.

Diane has been enjoying life in Pittsburgh. Her family, including Mark Kahrs '82 and 12 year old son, attend the symphony, opera, and museums, and have become huge Pittsburgh Steeler fans. Fall in Pittsburgh involves traveling Steelers parties with a large group of friends. The strong neighborhood identities make the house tours very interesting to them as well. Diane's family participates in community events such as Step Trek, which is family, non-competitive and fitness oriented. This year Diane and her family are on sabbatical in Edinburgh, Scotland, and hope to have some time to travel through Europe while there. While in Scotland she hopes to connect with fellow URCS alumnus Nigel Goddard and friends from Rochester.

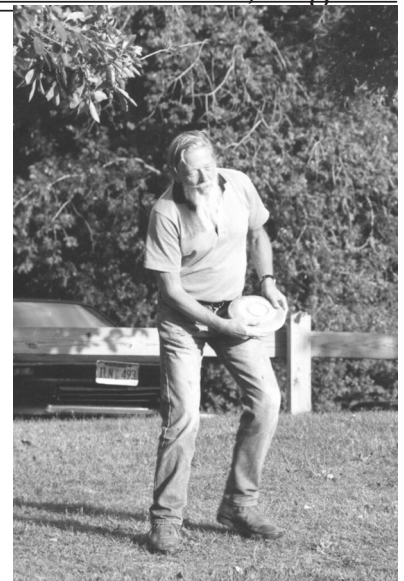
(Kyburg, from page 1)

Research Scientist and Pace Eminent Scholar at the Institute for Human and Machine Intelligence in Pensacola, Florida.

Former philosophy and computer science student Gregory Wheeler, now a senior research scientist at the CENTRIA Center for Artificial Intelligence at the New University of Lisbon, said of his former professor: "Henry introduced me to an entire world of ideas, just as all great teachers do, but Henry was also a great man. And what I learned from this great man was how large life can be. He changed—corrected—my sense of scale. For that I am forever grateful."

Ron Loui, Associate Professor of Computer Science and Engineering at Washington University in St. Louis, was one of Henry's first interdepartmental Computer Science/Philosophy students. Ron wrote, "To be a doctoral student of Henry was to be part of the family farm. While some advisees have talked about working in the barn, what I remember was the pastoral retreat of a gentleman scholar: a stereo always ready to play Mozart's Zauberflöte, a kitchen garden redolent of Provence, a dinner table for the discussion of aesthetics like you find in the movies, a warm bed on a cold night, and an intelligent sustainable life that now so many of us find ideal. How he emerged from that farmhouse in his crisp blue pinfeather summer suit will always be a mystery to me."

Henry Kyburg was a tremendous asset and valued friend to his colleagues and students, and will be remembered with deep appreciation and fondness.



*Henry Kyburg at
URCSD picnic - 1993*

URCSD KR-NLP Reunion at NAACL-HLT



The Reunion of our KR-NLP group was held during the NAACL-HLT Conference in Rochester this past April. Pictured First Row: Mark Core, Nate Blaylock, Carlos Gomez-Gallo, James Allen, Len Schubert, George Ferguson, Andrew McCallum, Phil Michalak; Second Row: Mark Vilain, Joel Tetrault, Diane Litman, Jenine Turner, Jason Eisner, Micha Elsner, Daphne Liu, Mark Fanty, Robert Swier; Back Row: Mary Swift, Will deBeaumont, David Ahn, Olac Fuentes, Marc Light, Benjamin Van-Durme, Myrosia Dzikovska, Eric Ringger, Mehdi Hafezi Manshadi, Ding Liu, Matt Post, Saurabh Desphande, Hao Zhang. In attendance but not pictured: Dan Gildea, Henry Kautz.

Where are they now? - Undergraduate Updates

Abbey, Macy '07 – “I’m currently working at SMS.ac in San Diego working with the newest web technologies in a high paced performance based atmosphere.”

Ahora, Tarun '00 – “I just finished my M.B.A. from the Kellogg School of Management (Northwestern U.), and started work in Chicago in August with McKinsey and Company. I enjoyed my vacation before beginning the new job... traveling through Egypt and India.”

Baird, Tyrone '01 – “Diana Calarese and I got married October 8th, 2006 here in Riverside, California. We’re now living in Irvine, CA. I’m still on active duty with the US Air Force flying C-17’s at March ARB. Oh, I will also be continuing my master’s degree in CS starting this fall at Cal Poly.”

Bakken, Luke '98 – “I found a better job at P.A.M.L (www.paml.com). I’ve been working on mainly system integration and billing projects in a lab setting and have a first-hand knowledge why healthcare is so expensive in the US. Too many different rules about who gets paid what!”

Bhopale, Seema '04 – “I am about half way through my graduate studies in the Molecular and Medical Pharmacology department. I am close to a co-first authorship paper in a very large collaborative research project focused on finding prostate cancer biomarkers to better diagnose cancer according to the specific signaling pathways altered. I am proud to report that I have taken a computational role in this project and my training has come to very good use. Additionally, I was selected to present this work at the Human Proteome Organization World Congress meeting November 2006. In personal events, my fiancé Chris and I got married in October in Las Vegas’ Valley of Fire State Park. :)”

Bodek, Haim '95 – “I was promoted to Managing Director at UBS at the beginning of this year. I am currently Joint Global Head of Electronic Volatility Trading at UBS Investment Bank.”

Borgna, Emily '07 – “I’m a software engineer at Thomson West here in Rochester. I’m not sure how long I want to stay in the area, but the job is great so

far. :)”

Bulatewicz, Tom '01 – “I received my PhD from the University of Oregon in June 2006 and then moved to Kansas where I have been an instructor in the Computing and Information Sciences department and a postdoc working with the Consortium for Global Research on Water-based Economies; both at Kansas State University. I’ll be holding the same positions for the 07-08 year as well.”

Calarese Baird, Diana '03 – “I got married to Tyrone Baird October 8, 2006, here in Riverside, California. We’re now living in Irvine, CA. I work at a software company, Meridian Link. “

Camara, Ross '04 – “On August 11th I got married to Nicole Crnkovich (UR '04) in Honolulu, Hawaii. After the wedding we returned to Maryland where I continue to work for IBM.”

Chan, Candy '02 – “I am going back to complete my MBA at Babson College in Boston.”

Chang Hiramami, Allison '01 – “I got married in May, 2007. My husband’s name is Michael Hiramami, and we got married in his dad’s backyard.”

Cheng, Roland '06 – “I am continuing my PhD studies with the ECE department at UR. My primary research involves image sensors.”

Clever, Jake '03 – “The Spring of 2007 brought two new changes to my life: a new job at a new company and a news of a second little Clever on the way. My wife Karen (UR '04) and I are expecting our second child in November. The growth of our family has also led us on the adventure of buying a home. In March 2007, I decided to leave BAE Systems for a job at Insight Technology, Inc. It is a privately held defense contractor where I was offered the position of a Program Manager in their Military Laser Systems Operations Group. Happy to say that after only three short months, things are going well and I am learning quite a bit about managing an entire program. I am also happy to be one of the latest MBA graduates from Bentley College of Waltham, MA. I was able to graduate with Distinction from the McCallum Graduate School of Business concentrating my MBA studies in the Management of Operations and Technology.”

Clubb, David '06 – “After graduating in May 2006 I spent some time in Germany to experience the soccer World Cup, before heading to China to backpack around there for nearly two months. In January 2007 I began working for IBM in Washington, DC as an IT Specialist, although in September I moved to London, England to pursue a Master of Science degree in Computing and Internet Systems at King’s College London.”

Cmar, Michael '05 – “I’ve been working as a software QA at Paychex’s MMS division. I’ve also been doing some other stuff on the side such as I’m the House Manager for Geva Comedy Improv. I’m also their Webmaster/Video Editor/Technology Guru. If you’re ever interested in a seeing a funny show for cheap I highly recommend it! “

Dahlgren, Jeremy '02 – “My wife and I welcomed daughter Brooklyn Grace on 11/17/07. I am still working

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University’s Gift Office at
585-275-8602

or email us at
giftoffice@admin.rochester.edu

for TextWise LLC here in Rochester and was recently promoted to Lead Engineer."

Dremeaux, Andy '06 – "I'm working as a flash developer at Avenue A | Razorfish. So far I've only had www.garniernutritioniste.com launch (I was one of two flash devs), but very soon the new timewarner.com should be up (all me) and in a few months a new Ford showroom, of which I am also the only developer. Some exciting stuff!"

Feil-Seifer, David '03 – "I've received my masters in computer science. I was awarded the USC Mellon Award for Excellence in Mentoring. I'm continuing work on my PhD."

Forney, Zeb '02 – "I graduated from Purdue University with my MBA this past year (2006) and now I'm working for a small company called Simulex here in Lafayette, IN. Yeah, never pictured myself as a mid-westerner, but here I am!!! I'm doing some software development, project management, and business development stuff."

Frankel-Goldwater, Lee '06 – "I am currently writing you from Peru and am culminating a 5 month travel experience through Latin America. I will be returning to NYC to see family, substitute teach, freelance, and figure out my next set of travel plans. Right now I'm considering some contracting work to get more experience in my areas of interest, then traveling and volunteering in India, followed up by learning more of the Chinese language and teaching in Taiwan. Tentative but interesting."

Frueh, Andrew '03 – "I married Karen Copeland (Eastman '03) on January 6th, 2007. I'm working as Creative Director for Second Ave. Software in Pittsford, NY. I've completed all coursework toward my MFA in Computer Animation at RIT, and I'm now working on my thesis film."

Golden, Alex '03 – "I just started working for a company in Tokyo, Japan called Bellnet...I am a "Bilingual Systems Engineer". I can't believe I'm actually using both of my degrees!"

Golden, Rich '03 – is still teaching English in Japan, at two different elementary schools in Fukui Prefecture.

Harman, Craig '00 – "I'm still at the University, just started working for Henry Kautz in CSC, doing research in ubiquitous computing and AI."

He, Michael '06 – "I received my MBA in finance from Simon Business School on 6/10/2007. I will be working as a portfolio analyst for Citigroup."

Heavey, Brendan '02 – "I'm still working in Buffalo for a heart research group. I'm the data manager for a clinical trial and doing grad school in Biostats."

Hill Marshall, Brandeis '00 – "I got married on September 2, 2006 to Gemez Marshall. It was a beautiful (and rainy) wedding in Scotia, New York. We honeymooned in Maui, Hawaii. This past April, I successfully defended my dissertation at Rensselaer Polytechnic Institute and I'm now a postdoc at Purdue University."

Immenov, Nikita '04 – "I have moved out to Seattle to pursue Ph.D. in Bioengineering at the University of Washington."

Immerman, Brian '04 – "This July I entered into my first year of rabbinical school at Hebrew Union College after working for two years for the Union for Reform Judaism in the Youth Division. I still do small IT projects (web development mostly) on the side to help pay for school. The first year of school is in Jerusalem and I have been spending the last three months studying Hebrew and living in Tel Aviv, which has been a great experience."

Jonsson, Justin '03 – "I still live in New Jersey, but I now work in Manhattan at Fidessa. I write scripts that customize Fidessa's trading software for their clients. I got married July 22."

Keck, Jason '03 – "I've taken a new job in Southern California as an Optical Coating Engineer with "Exotic Electro-Optics", a company that makes optical components for the aerospace and defense industry. The job is great, and the weather is quite a bit nicer out here :) I'll be sure to come back often to visit!"

Ku, Jason '01 – "Life in Singapore is an adventure. I've been traveling to far away places and engaging in exotic outdoor activities. In my many states of confusion, one weekend I found myself drifting aimlessly in the middle of the South China Sea while the next I was scaling a temple

Honors Research Theses

Aaron Rolett

"A Java Implementation of the Rochester Software Transactional Memory Library"

High Research Honors

Thesis advisors: Michael Scott, Sandhya Dwarkadas

David Lu

"Automatic Music Transcription using Genetic Algorithms"

High Research Honors

Thesis advisors: Mitsu Ogihara, Chris Brown

in the jungles of Angkor Wat. It's been a great past few months. In July, I will be returning to London to join McKinsey & Co. for a couple of months before setting off for France to complete my MBA. Europe is certainly less exotic than Southeast Asia, but I'm sure I'll find a way to get myself into trouble."

Lehr, Michael '01 – "I work as Software Architect for Organic Motion in New York City, not married, living in Manhattan. Organic Motion does realtime 3D markerless motion capture. We just came back from presenting at Siggraph (We had a booth)."

Lewis, Steve '00 – "In October 2006, I co-chaired HighEdWebDev 2006, a conference for over 400 higher education Web professionals from 42 U.S. states and eight countries. On June 19, 2007, I received a permanent appointment to my position as Web Manager at SUNY Brockport (tenure) by the Chancellor of the State University of New York system."

Marcus, Fred "Trey" '01 – "I am currently president of Electron Consulting, Inc. Most of my work is in software consulting, including project management and development. More info about the company is on my website: <http://www.electronconsulting.net>. When I'm not working, my hobbies include: Beach Volleyball, Table Tennis, poker, piano/keyboards/guitar. I'm also the lead singer and keyboard player in a rock band."

Marino, Dominic '05 – "I finished my Masters in CS at Columbia this past December and am currently a software engineer at Raytheon Integrated Defense Systems in Andover, MA. I work on the JLENS program, which is a cruise missile/ballistic missile defense radar that the Army will be using."

McCann, Brian '03 – I moved to Austin to pursue doctoral studies at UT. I'll be advised by Mary Hayhoe (our old friend), and Bill Geisler in the department of Psychology/Center for Perceptual Systems. It's hard to describe what exactly I do... I liked this one line summary the best, "So it's like the thermodynamics of the brain." That was about the best way I've heard it put."

McClosky, David '04 – "Jenny Turner and I were studying in Prague on an exchange from Brown University's Ph.D. program last semester at Charles University. It was a lot of fun and a great experience (especially since I didn't have time to do study abroad as an undergrad)."

McCusker, Jim '99 – In March, Jim started a new job at Yale Medical School in Pathology Informatics on a skin cancer research grant. He is very excited to be working with all sorts of new technologies and to have research opportunities after being in industry. He can be reached at james.mccusker@yale.edu.

Meeks, Eric '03 – "This year I entered my apartment (that I share with my girlfriend Amber-Morning) in ApartmentTherapy.com's Annual Smallest Coolest Apartment Contest. Our 390 sq. ft. apartment made it as a semifinalist. You can take a look at my apartment's entry in the competition here:

<http://la.apartmenttherapy.com/la/small-cool-2007-entries/southwest-semifinalist-3-eric-and-ammos->

[eyecatching-abode-023101](#) This just goes to show that even Computer Geeks can have style too!"

Moore, Justin '05 – "I'm still working at Bear Stearns as a Programmer/Analyst. I was promoted to Vice-President. Also, I am getting married next year to Wendy Ressmann, my girlfriend since freshman year at Rochester."

Norwood, Jonathan '04 – "My only news over the last year or so is moving from Philadelphia to Seattle to be a Software Engineer for Amazon."

Nayak, Harish '00 – has been promoted to Director of Digital Library Initiatives for the UR Libraries. He and his wife Jennifer (UR '00) have a daughter Kiran Rose, born 10/06.

Parent, Matthew '06 – "I actually accepted a new job with a company called VideoMining in Gaithersburg, MD. I also got married on August 31."

Rau, Alexander '99 – "I have moved from working at AIG to AXA, since I will only work for companies that start with the letter A. Basically I have the same position, but the titles are different from company to company (currently my title is Information Officer)."

Richardson, Joshua '96 – "Still working at Yahoo! in the Autos group. I am an engineering manager in California."

Rotondo, Mike '07 – "I got a job at Google as a Software Engineer in Test, and I started on August 20th!"

Robinson, Al '04 – Graduated with First Class honors in Archeology and Anthropology from Magdalen College Oxford University. Al will be working at HSBC Bank London as an Analyst structuring credit derivatives.

Rubin, Greg '05 – "I still work for Amazon but am transferring to IT Security from Unbox to follow my interests. I am also moving towards semi-professional photography, but haven't arrived yet."

Rutar, Nick '01 – "I got married in July 2006 to Colleen Przybyla. We got married up in Vermont cause we met in Burlington while we were both working at IBM. I'm still in the PhD program at U. Maryland, CP."

Sarkis, Richard '05 – "Senior Analyst/Programmer for Physics & Astronomy Department (since 5/2000), this past year and a half I have been doing programming work for the CDF detector project at Fermilab National Accelerator Laboratory in Batavia, IL."

Schmid, Jonathan '03 – "I began study in pursuit of a Masters of Robotics degree at the University of Pennsylvania GRASP lab this fall."

Sinapov, Jivko '05 – "I am a Ph.D. grad student at Iowa State University. I work in our school's Artificial Intelligence Research Laboratory, as well as the Virtual Reality Applications Center."

Siracuse, Sarah '01 – "I'm still a Staff Scientist at BBN Technologies now for 6 years (!!) and currently going for my Top Secret clearance for government work."

Spears, Steffin '01 – "I earned my MBA with concentrations in Operations Management, and Competitive and Organizational Strategy this June from the Simon School. I got married 7/14/07."

Swier, Robert '01, MS '02 – "I am nearing completion of my Computer Science Ph.D. at the University of Toronto. Recently, I was in Rochester for the URCS NLP group's recent reunion which coincided with the HLT/NAACL conference, and I was glad to see some old friends in the old city. I've now

Victorious at CS Games - AGAIN!



Pictured L-R: Dan Mullowney, Tom O'Neill, David Lu (holding trophy), Mike Rotondo (back), Jason Freidman (near trophy) Chris Tice, David Ganzhorn, Harry Glaser & Aaron Rolett.

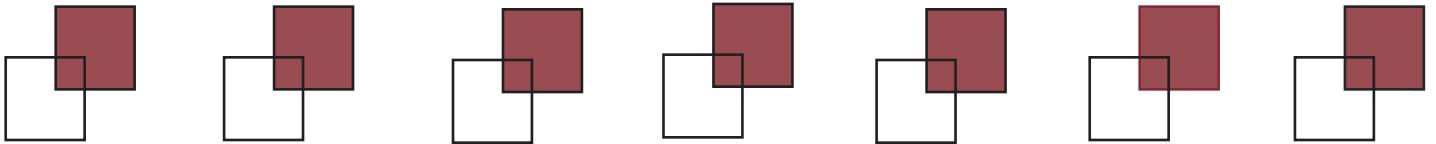
For the second year in a row, an undergraduate team representing URCS at the Computer Science Games in Montreal March 9-11, 2007 has returned with the first place trophy. The team, named "Ham Sandwich," consisted of five returning members of last year's winning team. Veterans David Lu '07, Dan Mullowney '07, Mike Rotondo '07, Tom O'Neill '07, and Harry Glaser '07 were joined by newcomers Jason Freidman '07, Aaron Rolett '07, David Ganzhorn '07 and Chris Tice '08. Scoring nearly nine points greater than the next closest team in a field of 32 teams, their consistently strong performance in many events kept them at the top. The students credit strong problem-solving skills (a hallmark of our URCS program), teamwork and the Rochester Curriculum's well-balanced requirements for their success not only in the technical events like cryptography, but in creative events like the team song and flash video as well.

One of the events this year was called "Surprise Competition". Students competing in this event had to teach a Computer Science topic to 3 non-technical students in 10 minutes. Many of our students had teaching assistantships and workshop leader experience that helped to do well in this event.

This year we also sent a second team of students, named "We Showered this Month". They finished 12th out of 32 teams. Team members included Alex Wang '07, Andrew Sveikauskas '08, Macy Abbey '07, Corey Proscia '08, Kyle Sabo '09, Steven Bozak '08, Nick Wrem '08 and Chris Clingerman '09. They already have plans for strategies for next year to insure the trophy returns to Rochester once again.

While in Canada our winning team caught the attention of the Google judges. Soon after the competition, the Google college recruiter contacted our undergraduate office and congratulated the team on a job well done. The judges were very impressed by the consistently high level of performance of the team. Three of the team's members, Harry Glaser, David Ganzhorn and Mike Rotondo have accepted full time positions at Google, with 2 members, David Lu & Chris Tice, completing summer internships there. Two other team members, Tom O'Neill and Dan Mullowney, are headed to Microsoft. A close-knit group of friends, many of the team members will be living together on the West Coast.

In the history of the competition, Rochester is the only team to win twice, especially back to back wins. Our team this year will have their hands full looking for a three-peat, but they look forward to the challenge of bringing the trophy back across the border once more.



(Undergrads, from page 12)

started a serious study of Japanese. It's great fun, and I'm sorry I put it off for so long."

Thomas, Thomas '07 – "I will be working with Professor Knill at the Center for Visual Science at UR as a full time programmer in the vision and action lab."

Turner, Jenine '03 – "I am still in the Ph.D. program at Brown, but I spent this spring at Charles University in Prague on a research exchange. I also enjoyed being able to make it back to Rochester for NAACL in April."

Van Dam, Rob '05 – "I'm still grinding away at my Master's thesis at BYU. I should be done sometime this fall. At least I now have a title."

Vengkatraman, Cartic '03 – "I work for Falconstor Software in Long Island. I am a "SAN Technical Specialist" just a high fancy way of saying I know how our software works ;-). I am also working on finalizing an Indie Label deal."

Weingarten, Tom '06 – "I am still a PhD student at NYU in the computational biology program, working under professor Yingkai Zhang."

Wexler, James '03 – "In January, I received an MS Degree in Computer Science with a concentration in theory from Northeastern University. I'm still with Raytheon Integrated Defense Systems, currently as a lead software engineer on the Surveillance Radar Program."

Algorithms and Law

Berlin '00 finds a connection



Daniel Berlin '00 received his law degree from George Washington School of Law in 2004. After two years of working on compilers for IBM Research in Yorktown Heights, NY, he now works at Google in Washington, DC. Last year, he married his college sweetheart, Melissa Kucinski, at the Interfaith Chapel. Below is the interview with him.

Editor: *Before you entered UR as a freshman, you had already published the book "CGI Programming Unleashed" (1996). How did this opportunity present itself to you in high school?*

DB: In the relatively early days of the world wide web (1994), I was lucky enough to have a nice internet connection, and be a participant in the mailing lists related to writing web servers (unlike now, there were probably two mailing lists total on the entire internet for this subject). I made some friends through answering questions and writing some code (It was to do a Visual Basic CGI interface for an early windows web server). As a result, I was asked to do some tech editing on a completely unrelated book through one of these friends who had some work published. To their credit, it turned out Macmillan Computer Publishing actually did not care how old I was, because I did a good job tech editing for them in my spare time. Macmillan was happy enough with the job, and when they discovered that the WWW might actually turn out to be a good area to publish books about, they asked me to author "CGI Programming Unleashed".

Editor: *Was it difficult to get published?*

DB: Surprisingly not. But this was a different time, when it was easy to get noticed and make good contacts. These days I seriously doubt I could follow the same path I did then. There were also many orders of magnitude fewer people who were knowledgeable about this stuff, and I was the only one with free time. There is also the money issue. While \$25 a page was a lot of money to me in high school, to someone getting paid \$150 an hour for software development, it wasn't.

Interestingly, the book sold really well. It was named Amazon's computer book of the month way back when Amazon was pretty small, and there was actually a display or two in a few bookstores. The book was translated into three languages. Humorously, of course, I got negative reviews from people reading in 2000 or 2002 claiming "This is all basic stuff everyone should know anyway", as if times had not changed.

Editor: *Would you consider yourself a non-traditional learner? What kind of challenges have you had to*

overcome to get where you are today?

DB: I am definitely a non-traditional learner, but this is mostly an outgrowth of the need to cope with serious ADHD. People mistake the ADD part of ADHD for not being able to pay attention. The reality is you pay attention to *everything*, when you should be focusing on single things. This is very different from not paying attention at all. My coping mechanism has thus been to stop trying to concentrate on single tasks for long periods of time (which I am very bad at), and instead learn multiple things at once, rather than "try to learn one thing while also pay attention to the bird outside the window". The hyperactivity portion of ADHD has enabled me to also do trial and error learning when it comes to certain things. For example, when figuring out algorithms, it is often much quicker for me to code the algorithm I am working out and try it than it is to try to reason out every corner case (though at some point, you do have to do this, but it works fast for weeding out what turned out to be bad ideas). I can also do this while thinking about something else entirely. Medications only help you cope with these issues, they don't really fix the underlying problem.

All of the above make it possible for me to learn things to a certain threshold. Past some point you have to focus entirely on one subject, and when that happens, my learning rate slows down very much.

Editor: *As an undergrad, what preparations did you make to go to law school? As a CSC student in law school, how did your UG program prepare you?*

DB: I actually did not prepare very much for law school. I took a small number of courses in philosophy and logic (which, thanks to the great teachers I had at the U of R, served me enormously). It turns out CS and a law degree actually require a good deal of the same skills. My CS program at U of R taught me an enormous amount about how to reason about things in general, as well as how to fit together algorithms, data structures, and come to sane results. This turns out to be exactly the skills you need to succeed in law school, and as a lawyer (though it does vary depending on the type of law). Most people in law school floundered through trying to apply laws and statutes to actual real world situations that aren't exactly the same. Having learned in my CS program how to apply unrelated or slightly different algorithms to new tasks, the task of applying normally rigid laws and cases to unrelated or slightly different situations was a walk in the park. I am able to see the connections a lot of people seem to have trouble with.

I specialized in Intellectual Property (patent, copyright, and trademark law), which at one point in the past, had a very sane and logical set of rules. This is no longer true. Undergrad CS taught me there are often no best answers, just a lot of good answers, and it is more

(Berlin, page 14 cont.)

important to know how to get to the good answers. In any area of law like IP, where statutes are rather vague and were written for a very different time and place than our world is today, being able to come up with good answers is essential.

Editor: How did you end up at Google? What does a computer scientist/lawyer do there?

DB: When I left for Google, I was working at IBM research doing engineering work on GCC (A free software compiler), as well as being involved in legal work around open source. I ended up at Google for two main reasons. IBM was hesitant to let anyone outside their legal department do anything interesting on the legal side. I was okay with this, and considered officially working part time in the legal department, but this was somewhat bothersome. However, the main reason I left IBM is that, even though the people at IBM research were incredibly smart and innovative, I did not feel that the company overall was still willing to take the large risks you need to take to achieve real innovation. It came down to me not wanting to work for a company that only wants to be as good as every other company. I wanted to work for someone willing to take the risk associated with doing better than everyone else.

At Google, I work for the Open Source Programs Office. I split my time between engineering and lawyering for the group. On the engineering side, I work on Code Hosting for Google Code (<http://code.google.com/hosting>), as well as contributing to open source projects, particularly, GCC and Subversion. On the legal side, I help us ensure internal license compliance (i.e., tell engineers what they need to do if they want to use a certain piece of code), answer legal questions that come up about open source (both by engineers and our legal department), and help figure out what our legal requirements and policies should be around open source (which is a multi-person effort). I can multitask and do these several roles at once, so the job I have now is ideal for me. Google is a great company to work for. It is one of the few companies I've worked for with a real internal

conscience, and where the "voice of engineers" actually matters at the highest levels.

Editor: You're back in the DC area where you completed your law degree. What do you enjoy about DC?

DB: I work in DC, but live in a suburb in Maryland named Rockville. DC is a good place to be if you want to have any impact on current policies and laws, and I am quite passionate about our policies and laws around Intellectual Property. I also get to work next to the rest of Google's policy team on these issues by virtue of being here.

As for where I live, both my wife and I love Maryland. It has a nice climate, and I can take the Metro to get to my job from here without the commute being painful.

Editor: What do you do in your non-work time? Any favorite pastimes, or places to travel to?

DB: My wife and I bought our first house in January, and I've been spending a lot of spare time remodeling and fixing things up. It is actually very enjoyable sometimes to be able to get away from the computer and just build new cabinets, put in new flooring, or fix plumbing. It is also hard to find contractors who charge a reasonable price around here (side effect of living in an upper middle class suburb), so I usually do most of the home improvement myself.

Besides that, my wife's free-time work for the ABA's international law section has meant we have been traveling a bit, but usually not for long periods of time.

Editor: Is there anything particular in your undergraduate experience in CSC that stands out as significant to your current success?

DB: It's hard to say. I enjoyed it all so much, and I use almost everything I learned on a daily basis. I do remember trying to do seemingly impossible homework problems in "Design and Analysis of Efficient Algorithms", and having weeks to rederive theorems it took people much smarter than me years to do, in "Theory of Computation" seminar. While they were quite harrowing at the time, I just laugh about them now.

Flashback Photo - Fall '99

*Front row (L-R): Sarah Siracuse
Tom Bulatewicz,
Anand Bahirwani
Cristina Luis*

*Middle Row: Bryan Thibodeau
Peenak Inamdar
Benjamin VanDurme*

*Back Row: Craig Harman
Mike Schear*



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Marty Guenther, Len Schubert

Best Wishes to the Class of 2007

Macy Abbey
Emily Borgna
Jonathan Chen
Andrew Chin
Jason Freidman
David Ganzhorn
Harry Glaser
Tyler Green

John Harrington
Nachiket Joshi
Ryan Korsak
David Lu
Brian Meeker
Daniel Mullowney
Hai Nguyen
Thomas O'Neill

Eric Osisek
Michael Riffle
Aaron Rolett
Michael Rotondo
Brian Sherwin
Thomas Thomas
Alexander Wang
Shan Zhao