

# Computer Bytes

**Computer Science Department  
New Mexico State University**

**Fall 2002**

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## Major Funding Success

The department got busy in Fall 2001 and early Spring 2002 in writing a proposal to the National Science Foundation for follow-on funding for support of research and education infrastructure. The proposal was submitted in February and in May we were informed that we had been selected as one of four schools for a site visit, which is a big all-day presentation. The amount of activity was astonishing, with everyone - undergraduates, graduates, faculty, staff and administrators - contributing mightily to the effort to put on a good show for the NSF visitors. After the visit was over, and it went exceedingly well, it was a process of waiting for word; we knew that only one or two proposals would be funded. We got the call in June that we had been approved for funding, and everyone started to breath again!

The proposal includes several new pieces of research and a major upgrade to our education of minority students, especially Native Americans. The newer research areas include a major effort in computational biology and bioinformatics, led by Desh Ranjan, and use of logic programming to build complex pieces of software, led by Enrico Pontelli. These build on an already solid foundation in software engineering, knowledge representation and reasoning, and algorithms.

### **Hue McCoy Retires - NOT!**

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We have now gone a year since Hue McCoy's retirement party last Summer. But did he shuffle away and play the grandfather role like any sensible person would? Those of you who know Hue will immediately answer with a resounding NO! Hue will never be the sort to lay back and relax; he has way too much to offer to do that. No, Hue is carrying on his duties as development officer for the department and has put



a lot of time and energy into organizing job fairs (see "Local Job Fairs a Success"), finding jobs for students, and preparing for our funding drive when the university's endowment initiative goes public (see "Capital Campaign"). We are also pleased that he will be back teaching part time next year.

### **Enrico Pontelli's Good Year**

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Enrico had two major successes in the last twelve months. Firstly he was received the Donald C. Roush award for teaching excellence, nominated and voted on by students. This is a major NMSU award, and is especially valued



because of the student involvement. His second success came in May when he learned that his application for early promotion and tenure were granted. Enrico's resume is already very impressive and his case, even coming up one year early was clear cut. Congratulations are in order for Enrico! He was also the main author of the infrastructure grant (see "Major Funding Success") and the success of that singles him out as deserving of high praise. In addition, he, together with Eric Johnson of the ECE department were awarded three HP Itanium class machines for research in high performance computing.

# New Faculty

The department is very pleased to welcome three new Assistant Professors that bring us back up to full strength after a few years with vacancies among the faculty. Clint Jeffery, who was hired last year, improves our software engineering research, and means that we have a faculty member doing real research into advanced languages. Inna Pivkina and Jing He were hired this year. Inna strengthens our already strong presence in logic programming. She approaches the area from an artificial intelligence perspective which also dovetails nicely with the department's interests. Jing He is our first hire in the growth area of bioinformatics. She will join an established interdisciplinary team from Biology, Biochemistry and Computer Science.

## Jing He

### Assistant Professor

I have always had strong curiosity towards biomedical science even when I was trained in a totally different world: mathematics. My undergraduate major was applied mathematics from Jilin Uni-



versity in a northeastern city of China. In 1994, I finished master degree from New Mexico State University with a mathematics major and a computer science minor. A small flyer outside a department office led me discover a totally new world. I decided to follow my curiosity and find out what kind of computation and engineering techniques are needed from biologists. I finished my Ph.D. degree in 2001 from an interdisciplinary program called Structural and Computational Biology and Mo-

lecular Biophysics at Baylor College of Medicine. I enjoyed four and half years working in the National Center for Macromolecular Imaging as a Ph.D. student, because it provided an excellent research oriented environment for me to understand biological questions and to be able to appreciate the results brought by analyzing biology data using computers. I started a job in 1999 to maintain computer systems and the network in the department of Computer Science of this university. Now I am looking forward to moving on to the new faculty position and to work with young minds.

## Clint Jeffery

### Assistant Professor

Clint received his B.S. from the University of Washington, and M.S. and Ph.D. degrees the University of Arizona, all in computer science. He has authored two books and many papers on his research in the areas of programming languages and software engineering, particularly program monitoring and visualization. He runs a web site and mailing list devoted to the Unicon programming



language, a sane alternative to Perl and Python, at [unicon.sourceforge.net](http://unicon.sourceforge.net). In his "spare" time Clint studies devices that cause floatation in young children, collects every sort of Tolkien paraphernalia, occasionally sings tenor in church choir, wishes he knew enough mechanics to fix up his 1972 firebird, and passively pursues philately. He likes finding bargains on ebay and thinks "Everquest" and similar games

demonstrate an emerging paradigm of Internet-based virtual reality that will change many industries and impact society just as much as the "world wide web" did.

## Inna Pivkina

### Assistant Professor

Inna Pivkina grew up in a geographical center of Russia, Novosibirsk, the largest city in Siberia. Her childhood passion of solving puzzles led to her deep interest in mathematics and later in Computer Science.



In 1990 Inna received diploma with honors in Mathematics (an equivalent of a master's degree) with concentration in mathematical logic from Novosibirsk State University. Her research was in recursive mathematics and semantic programming. After graduation Inna worked at the Institute of Mathematics in Novosibirsk. With a group of her colleagues she developed educational software for an electronic textbook in mathematical logic. After deciding to continue her education in the United States Inna went to the University of Kentucky in Lexington. While a graduate student, she worked as research and teaching assistant and in her final year as instructor. She received her doctorate in Computer Science in August 2001. Her research is in logic programming and non-monotonic reasoning, a subfield of Artificial Intelligence.

## Local Job Fairs a Success

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The department has now run two job fairs. The aim was to bring local high-tech and computer-based companies together with student seeking positions. Many local companies responded, and of course many of our students were present to hear brief introductions and overviews from company representatives. Then, after a free lunch (always a winner with students!) it was time to get down to the serious business of handing over resumes and discussing possibilities. The local environment for high-tech companies has been steadily growing throughout the 90s and more and more opportunities for employment are arising. Of course, there are still opportunities out at WSMR, but that is being increasingly supplemented by start-up and commercial companies who are looking for people with exactly the skills that our students receive during their degree programs. We plan to hold another local job fair for our students this fall. It should be held before Thanksgiving and will include as

many local companies as we can entice to come to campus. This job fair will be coordinated with and supported by the NMSU placement office.

### HP donates high-powered server

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HP, as part of their program of philanthropy for universities, donated two RP8400 machines to NMSU (ECE got the other one) for use in teaching and research. The machine has 16 PA-RISC processors with 2GB of memory and a couple of big disks. This machine is an excellent addition to our parallel processing capabilities and will be used in the teaching of parallel programming and also in our research into parallel Prolog (Enrico Pontelli) and in application of logic programming (Son Tran). We are, as always, very grateful to Patty Lopez (CS PhD, 1988) and her efforts in supporting Computer Science at NMSU.



## The Native American Summer Camp

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This summer the department held its fourth summer camp for Native American high school students. This program, sponsored by the Na-

grant, enables these students to get a taste of college life, and to participate in several activities, central to which is an introduction to college Computer Science. Students do projects in Math and Computer Science and build there

This year's group was an outstanding bunch of kids who really had a good time. As usual, the bookends for the camp were two sessions from Project Eagle, two guys from Oklahoma whose aim it is to encourage Native Americans



*A student and her robot*

tional Science Foundation as part of a Minority Institution Infrastructure

own web pages in a writing component. Instructor Rick Vinyard once again ran his successful "robot wars" contest at the final banquet in which robots programmed by the students fought it out over a piece of prime territory (a large piece of cardboard!) The ultimate goal of the program is to encourage these students to attend college and to look at Computer Science as a viable career. Many of them will be first generation college students, so they are real trailblazers.

to achieve a balance between their ancient cultures and rituals and the "way of the white man". The students really respond to this, making the camp something to remember for a long time. We are pleased to report that the camps are already yielding successes. Almost all the campers that graduated high school are attending some form of higher education, this Fall we will have a total of three ex-campers in the department.



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