Staff Notes MONTHLY
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Just One Look

It was a picture-perfect afternoon for the NCAR/UCAR up-the-hill races on 12 September. The 13th annual running (or is that running/biking?) of the races brought out dozens of staff to ascend the Mesa Lab road, either solo or as part of divisional relay teams. Afterward, the Employee Activities Committee sponsored the traditional tree-plaza party. More race and party coverage can be found elsewhere in this issue.

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MONTHLY

September 1997

What next for SCD? Buzbee's thoughts

In late August, the U.S. Department of Commerce and the International Trade Commission ruled within days of each other that the offer from Federal Computing Corporation (abbreviated as NEC in Japan) to sell an SX-4 supercomputer to NCAR constituted dumping. (In trade lingo, dumping refers to merchandise being offered at an unrealistically low selling price in order to stimulate enough succeeding business to recoup costs.) The rulings were the culmination of a year-long challenge initiated by Cray Research after NCAR announced the NEC procurement in the spring of 1996. On 28 August, in response to the Commerce and ITC rulings, NSF officially terminated the SX-4 procurement process.

The events of August ended efforts by NCAR's Scientific Computing Division to bring one of the most powerful computers in the world to NCAR and the modeling community that it serves. *Staff Notes Monthly* editor Bob Henson interviewed SCD director Bill Buzbee in early September to get Bill's take on the recent past and the evolving future.

Bill Buzbee

SN: Obviously this must be a disappointment.

BB: Yes, it is. The SX-4 is the fastest machine that we have ever evaluated--15 to 25 Gigaflops [billions of floating-point calculations per second] sustained. Had we been able to bring the SX-4 to NCAR, it would have enabled U.S. atmospheric scientists to address problems that are currently intractable and will remain intractable until comparable computing power is available.

Our best option for matching the performance and cost-to-performance ratio of the SX-4 is highly parallel microprocessor systems, such as the Hewlett-Packard/Convex SPP2000 that we acquired this spring. This machine has been undergoing a process of upgrades. We expect to make it available to all users within the next month or so. We're doing a number of experiments to evaluate its overall capability, and so far it looks promising. We can routinely get 2 gigaflops out of it and we have surpassed 10 on one occasion. It offers very good performance per unit of cost.

How would you characterize our relationship with Cray at this point?

I think it's professional. It has been throughout, for the most part, and as we move on now to this era of highly parallel nonvector computing, they are a potential supplier. We'll give them the same objective consideration that we have in the past.

Let's talk about the highly parallel nonvector era. What does that imply as far as challenges and potential benefits?

The most significant thing it implies is the potential to have as much computing capability as we would have had with the SX-4. It'll be a year or so later, but nevertheless it gives us the potential to stay in league with our peer organizations around the world, who, as I've noted on various occasions, by the end of this year will have systems that sustain 20 to 80 gigaflops. It's very important that we have comparable capability. This technology is our best hope for

achieving that.

Can you explain in a nutshell the difference between vector and nonvector machines?

The vector machines operate on strings of numbers, and as a consequence, the CPU, memory, and various other components can be coordinated in such a fashion as to achieve very high performance.

The microprocessors [i.e., nonvector processors] today have, in theory, peak performances comparable to the vector processors, but they use another strategy--cacheing--in order to enhance their performance.

How has the SCD planning process unfolded through the drawn-out procurement process?

As soon as the antidumping investigation was launched, we realized that the SX-4 might never be available, so we put in place a number of interim steps. We brought the C-90 into the Climate System Laboratory, and that made it possible for the climate system model (CSM) project to make a lot of progress. We brought in a new J-9 computer from Cray Research to replace the old Y-MP, which was beginning to have reliability problems due to its age.

We've had highly parallel systems on the floor for experimentation and first-hand evaluation throughout the nineties, but we realized that if the SX-4 was not going to be available, then our best option would be highly parallel nonvector technology. We put in gear last fall a process to acquire the latest technology in this area, and that culminated with installation of the HP SPP last spring.

This Hewlett-Packard/Convex SPP2000/64 arrived at NCAR this spring.

At the same time, we're using some of HP's computers in Dallas, correct?

We only have a 64-processor system here, so we do have access to bigger systems at other sites.

How do you think climate modeling at NCAR will adapt to the transition toward nonvector technology? Could we be using supercomputers in other nations, as we did in Japan in a collaboration with NEC earlier this year?

Warren Washington and coworkers have a parallel coupled model (PCM) that runs on highly parallel systems, including the HP SPP. This is one of the models that we will use to evaluate the SPP. On the other hand, the NCAR

climate system model (CSM) will need some significant modifications to use the SPP and similar systems.

Part of the NCAR strategic plan includes broadening our national and international collaborations. When scientifically appropriate, such collaborations can include access to supercomputers off site, including in other countries.

Meanwhile, we have the CRAY C-90 downstairs. It's still a very solid 5-gigaflop machine running the CSM quite well. It'll be here for at least another year and probably at least two more years. So I don't think there's any particular crisis with the model as it presently exists.

It does sound like SCD will survive this ordeal and continue to be a community resource.

The data-handling capabilities in SCD are almost unmatched, and we have a very respectable computing capability today with the C-90. We anticipate bringing in another supercomputer for the community. I think we're as good as most U.S. supercomputing centers, and if we're successful with the highly parallel nonvector technology, we will be able to match the computing capability of our international peer organizations. It'll take about a year to a year and a half to get there. Five years from now, people may look back on all this as actually a fortuitous development.

Clearly the past year has been a tough period for SCD staff.

It's created a certain amount of apprehension. [I'm hearing] similar apprehensions among some of the scientists. They're very concerned, as was evident at the director's retreat back in June, that we maintain a good computing capability.

However, you do have a sense of where SCD is headed that you haven't really had for a year.

We're out of limbo now, and we know what we have to do next. The SX-4 is behind us.

It sounds like we'll be going in a different direction from almost any other major atmospheric science computing center.

Not really. The U.K. and German weather services are both using highly parallel nonvector systems. The European Centre [for Medium-range Weather Forecasts] and Meteo-France are using highly parallel systems with vector processors. The only way to get the kind of performance that this community needs is through parallelism. No matter what we do, we're going to go parallel.

For more details

Bill Buzbee appeared before the International Trade Commission on 27 August. A transcript of his testimony, including comments on the relative merits of the Cray and NEC supercomputer configurations offered to NCAR in the procurement process, can be found in **Comments from UCAR to the International Trade Commission Hearing**.

This spring SCD acquired a Hewlett-Packard/Convex SPP2000/64, an Exemplar X-Class system that features 64 microprocessors in a highly parallel nonvector environment. More on the HP SPP and its features can be found in **New Architectures to Meet New Challenges**.

SCDzine, the division's on-line newsmagazine, has a new edition this month with more on the procurement saga and on several recent and upcoming additions to the computer room.

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This Week at UCAR gets a face lift on the Web

Tired of that nasty old ASCII? Check out the new World Wide Web version of ***[This Week at UCAR](#)***. Every Thursday morning this service of UCAR Communications brings you institution-wide announcements, calendar and visitor listings, the cafeteria menu, and job openings. Now each of these sections is available on the Web in fully formatted HTML (including links to relevant Web sites).

Please send questions, comments, or other correspondence regarding *This Week at UCAR* to editor Jacque Marshall, thisweek@ucar.edu, ext. 8616. Announcements are due by 5:00 p.m. Monday, and calendar items may be posted as late as 9:00 a.m. Wednesday. To submit calendar items, please use the handy **[on-line form](#)**.

This Week at UCAR's announcements section is the perfect place for news bits aimed at staff at large--upcoming events, social and cultural activities, and any other items that don't require the immediacy of all-local-users e-mail transmission. A further advantage is that announcements remain on the Web for a full week, allowing easy access and review. Please submit publication-ready announcements directly to thisweek@ucar.edu. Be sure to include the name, phone number, and email address of someone to contact for more information.

If you would like to receive *This Week at UCAR* by e-mail (delivered automatically every Thursday), or you'd like to change your e-mail subscription, see the **[on-line instructions](#)**.

Feeling overwhelmed by e-mail messages? To reduce your load, try subscribing to just one section of *This Week at UCAR* and use it as a reminder to check the Web each Thursday. •**BH**

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Shuttle riders take heed: new schedule starts 6 October

In an effort to better serve U.S. 36 commuters, Traffic Services is revising the crosstown shuttle route that runs between the Foothills and Mesa Labs during rush hours and midday. Instead of going southbound from Crossroads, past downtown and the University of Colorado to Table Mesa and Broadway (and vice versa for northbound travel), the new route will go from Crossroads directly to the Table Mesa Park-n-Ride at Foothills Parkway, then to the current TM/Broadway shuttle stop (and vice versa). The express routes at midmorning and midafternoon will continue as before. However, the departure time of every half-hourly shuttle run through the day will now be 5 and 35 minutes after the hour, instead of 3 and 33 minutes after. The revised schedule takes effect on Monday, 6 October.

The new SKIP service, which provides Regional Transportation District buses every few minutes along Broadway, was the main catalyst for the change, according to shuttle supervisor Jean Hancock. "It didn't make as much sense to go to CU and downtown now that SKIP serves the same areas more frequently," says Jean. Meanwhile, she has gotten numerous requests from commuters in Denver and its northwest suburbs asking for more direct links during commuting hours between Denver-Boulder RTD service and the NCAR/UCAR/UOP shuttle. By shifting shuttle-run start times to 5 and 35 past the hour, the new schedule offers better connections at the Table Mesa Park-n-Ride from the Denver-Boulder "B" routes to the ML- and FL-bound shuttles.

Jean received over 100 comments last month after she polled staff on the proposed change through an all-local-users e-mail. Her mail ran two to one in favor of the change, which has also been endorsed by the Transportation Alternatives Group. Jean invites your continued input (ext. 8504, hancock@ucar.edu) as the new schedule begins. You can find a copy of the revised timetable on any shuttle, at the ML and FL reception desks, and **on the Web**. •**BH**

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Meet the new VPs: Jack Fellows and Katy Schmoll

In the August issue of *Staff Notes Monthly*, we reported on the retirement of Bill Rawson, UCAR vice president for finance and administration. This month we introduce you to Bill's successor, Katy Schmoll, and to Jack Fellows, the new UCAR vice president for corporate affairs and director of the UCAR Office of Programs. (Harriet Barker, the former VP for corporate affairs, remains a UCAR vice president at large.)

"A less frenzied atmosphere"

Like so many before her, Katy Schmoll finds herself attracted to Boulder by the magnetism of our natural setting. Katy recalls a moment earlier this year as she walked through the Denver International Airport parking lot on her way back to Washington, D.C., following her UCAR job interview: "It was one of those beautiful, clear mornings, and there were those mountains. It just struck me dumb."

Katy Schmoll

This is Katy's first time living in the West. A native Hoosier who graduated from Indiana University, she spent 17 years in NASA administration before taking on fiscal management of the U.S. Environmental Protection Agency in 1993. As the EPA's comptroller, Katy was in charge of a $6.8 billion dollar budget (FY 1997), a budget far larger than UCAR's. However, "the issues and the problems you face with a budget don't change much depending on the number of zeros," she says. Also, she adds, "one thing I'm looking forward to in the VP position is that I'll be dealing with a lot of things other than budgets."

In her first contacts with UCAR, NCAR, and UOP, Katy says she's come to appreciate the institution's "commitment and involvement" in atmospheric research--"commitment to good science and commitment to the environment," which she also valued at NASA and the EPA. "I've always felt it would be hard for me to work in private industry."

Katy is inclined toward innovation in her approach to budget management. At the EPA, she acted as "midwife" in establishing the Working Capital Fund, a tool for keeping track of small-scale items that add up to large-scale costs. "In the past, things like postage and computer services had been centrally funded. Given that, nobody paid a lot of attention [to those expenses] because they weren't footing the bill." Once the fund was in place, users paid directly for the services, which tended to spur efficiency. "We starting seeing people thinking twice about running out a report, thinking about what they really need." For instance, a charge for electronic mailboxes resulted in a weeding of many unused mailboxes, including some maintained for people who had died or left the agency long before.

Thus far, Katy is more than satisfied with her new life. "I'm very impressed with the caliber of people here, including those who'll be reporting to me." And in Boulder, she adds, "there's such an easy atmosphere and such a friendly attitude. It's a less frenzied atmosphere than what I'm used to."

"I'm excited to be here"

When he had to leave his six-year-old in tears as he departed Washington, D.C., last month, Jack Fellows wasn't so sure about moving to Boulder. Jack's wife and three of his children (the fourth is in college) will be arriving in October. They're one of the two main reasons Jack took the position as UCAR vice president: "I thought that Boulder presented a better opportunity [than D.C.] to spend more time with my family." The other reason, says Jack, is UCAR itself: "It's a quality organization."

Like Katy, Jack climbed the Washington career ladder quickly. He spent 13 years in the White House's Office of Management and Budget, the last five of those as branch chief of the Science and Space Program Branch of OMB. In that role, he oversaw the fiscal management of NASA, NSF, and the Smithsonian Institution, comprising $18 billion and 25,000 employees. He also served as OMB coordinator for all federal R&D programs (roughly $75 billion).

Jack echoes Katy's feelings about downshifting to the comparatively modest UCAR fiscal environment. "I don't see much difference in the actual day-to-day actions. You're still dealing with people, no matter how many zeros are behind the numbers."

After a childhood in Bloomington, Indiana, and the D.C. area, Jack attended the University of Maryland for undergraduate through doctoral programs in civil engineering. He and two brothers helped put each other through college and grad school by alternating stints at UM with operation of a commercial greenhouse. Jack embarked on a brief research career in hydrologic analysis and remote sensing before he was tapped by the American Geophysical Union (AGU) to be a 1983-84 congressional science fellow, serving as a consultant to California representative George Brown.

Jack Fellows

While Jack was working with Brown, NCAR founding president Walt Roberts paid a visit to his office, having been asked by Brown to help find ways to organize climate research. "I was very struck by [Walt's] energy level, his integrity, and his vision," recalls Jack. Since then, he says, "I've had a great respect for the scientific caliber of NCAR and UCAR. I really came here because of what I felt this institution is. I want to contribute in whatever ways I can, with my background of 13 years in the White House complex and the federal research community." Jack earned the 1997 Edward A. Flinn III medal from the AGU for his work helping to organize federal research on global change.

After being immersed in the "sine-wave" culture of Washington, where political appointees come and go--"a world of tremendous chaos"--Jack is looking forward to putting down roots in Boulder and at UCAR/NCAR/UOP. "I'm excited to be here. I've received a very gracious welcome. It's made the move here without the family much easier." •**BH**

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Science Briefing

How does vegetation keep up with carbon dioxide? The earth's plant life appears to be consuming CO_2 at an increasing rate as CO_2 levels in the atmosphere rise. But the fate of the extra carbon taken up by plants has been unclear. In a number of experiments where plants are grown under enhanced-CO_2 conditions, the carbon stocks of the experimental ecosystems haven't reflected the corresponding increase in stored carbon one would expect from the increase in photosynthesis.

Elisabeth (Beth) Holland (ACD) is second author of a paper in the 7 August issue of Nature that posits an explanation for the missing carbon. With lead author Bruce Hungate (University of California, Berkeley) and four others, Beth presents results from a three-year study of California grasslands exposed to doubled CO_2 levels. The group found that more carbon than expected was passed to the plants' roots. Previous work had shown little growth in root biomass under such conditions, hinting that the roots didn't serve as a storehouse for extra carbon.

Beth Holland

Beth and colleagues found that the additional carbon isn't sequestered (stored) in the roots themselves, but passed back to the atmosphere almost immediately via increased root and microbial respiration, as well as through short-term carbon pools in the surrounding soil that release carbon to the air before it can be fixed in the soil. These so-called labile pools "can drive substantial but difficult-to-measure sequestration of carbon in the short term," write the authors. "The small size and high turnover of the labile pools, however, prevents them from providing quantitatively important long-term carbon storage."

The *Nature* paper suggests that, because of these labile pools, short-term experiments in CO_2-enriched environments "may tend to overestimate the potential for grasslands to sequester carbon in soils in the long term."

Home to the world's warmest oceanic waters, the western half of the equatorial Pacific Ocean features extensive and frequent storminess. The storms are often related to periodic features such as the 30- to 60-day Madden-Julian oscillations. Shorter-term, high-altitude waves also traverse the region in 3- to 4.5-day periods, and **a recent paper is the first to find two annual peaks in this wave action. The paper in the 15 July issue of the *Journal of the Atmospheric Sciences* was authored by Christopher Wikle (NCAR Geophysical Statistics Project). Coauthors are Roland Madden (CGD) and Tsing-Chang Chen (Iowa State).**

Christopher Wikle

Although the waves observed by Chris and colleagues were examined at high altitudes (between 150 and 30 millibars, or roughly 14 and 24 kilometers), they are believed to originate closer to the surface, traveling westward and amplifying upward with time. Known as mixed Rossby-gravity waves, they become most evident through spectral analysis of wind data over the region. Chris's team used a new technique, autoregressive cyclic spectral analysis, that allows researchers to retain annual and semiannual cycles that are normally removed from spectral analysis data for clarity. According to the authors, "from a statistical perspective, it makes sense to use the information contained in the [seasonality], rather than to remove it."

With the new analysis, the team uncovered distinct peaks in wave activity that occurred in late winter/spring and late summer/fall for several stations between 5 and 10 degrees north. The dual peaks could be triggered by well-known peaks in thunderstorm activity occurring at those times. Chris and colleagues also found that the horizontal momentum fluxes associated with the waves appear to be in opposite directions for late winter and late summer. The authors suggest that future studies use modeling to explore the horizontal and vertical structure of these waves and their twice-yearly peaks.

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Veterans triumph in hill race; heat a close runner-up

This year's relay racers handed off five-foot-long "aqua noodles"--fortunately, they were light noodles.

With fresh competition nipping at their heels and the sun beating on their brows, the old-timers in NCAR's annual up-the-hill race had much to contend with. In the end, though, perennial champions won the men's challenges and placed high in the women's competitions as well. The 13th annual race up the Mesa Lab road took place on Friday, 12 September, with temperatures climbing above 26 degrees C (79 degrees F).

Cruising to victory: cyclist Alan Hills.

Alan Hills scored his ninth victory out of eleven attempts in the men's bike race. Only three seconds behind Alan at the finish line was Ginger Caldwell's 13-year-old son Blake, a four-time national champion in his age group. Alan overtook Blake toward the race's end, making for an exciting finale. Anne Jefferson cruised to victory in her second women's bike race, with Ilana Stern close behind. On a commuter bike this time rather than her usual racing bike, Ilana does the road race every other year: "It takes me two years to forget how miserably sick I feel at the finish line." SCD's Don Middleton-Link and Steve Hammond conducted their own bike-race-within-a race; each was pulling a trailer with a child in tow. Steve and his tyke, Sawyer, won out over Don and son Russ.

Barb Bailey took first place in the women's foot race.

In the women's competition, returning runner Barb Bailey took the prize, 12 seconds ahead of newcomer Tera Newman. Ambling his way to his seventh men's foot-race victory was Andrew Crook, well ahead of the pack. Taking second in the men's race was first-time participant Nathan Gillett, a three-month visitor in HAO from Oxford University. "It wasn't as bad as I thought it was going to be," gasped Nathan just after his run. In a rare feat, Karsten Baumann, an ASP postdoc in ACD, scored third place in the men's foot and bike races both--then ran on the winning ACD relay team.

The nail-biter of the afternoon was the divisional relay. In the traditional finale--directors running the last leg--ACD's Paul Sperry (filling in for Guy Brasseur) came in just one second ahead of Maurice Blackmon (CGD). The participation-weighted results also ended up in ACD's favor. "One of our people raced in sandals and a skirt. We were trying to get participation rather than to win," says Paul. The semi-torrid race conditions segued into delightful shade on the tree plaza at the after-race party, where awards were bestowed and beverages downed. •**BH**

Complete race results are posted on the **Employee Activities Committee** Web site.

1997 Winners

Divisional Relay/Time

1. ACD, 5:50
2. CGD, 5:51
3. HAO, 6:03

Divisional Relay/Participation

Men's Bike Race

1. Alan Hills, MMM, 5:48
2. Blake Caldwell (Ginger's son, SCD), 5:51
3. Karsten Baumann, ACD/ASP, 6:08

Women's Bike Race

1. HAO, 59.1 %
2. ACD, 57.4 %
3. MMM, 46.3 %

Division Relay/Overall

(time weighted at 65%,
participation at 35%)

1. ACD
2. HAO
3. CGD

1. Anne Jefferson, ACD, 8:00
2. Ilana Stern, SCD, 8:13
3. Gretchen Wallhaus, UNAVCO, 10:06

Men's Foot Race

1. Andrew Crook, MMM, 8:04
2. Nathan Gillett, HAO, 9:52
3. Karsten Baumann, ACD/ASP, 9:58

Women's Foot Race

1. Barb Bailey, CGD, 11:30
2. Tera Newman, HAO, 11:42
3. Julia Lee-Taylor, ACD/ASP, 12:54

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Delphi Question: Bike security

Note from the Delphi coordinator: The following question and reply concern the theft of personal property from UCAR premises. The response both clarifies the consequences of such loss and serves to remind other staff to make sure that personal property of value kept at UCAR is properly insured. For more information on bicycle storage/theft on the Foothills campus, please refer to Dean Lindstrom's e-mail message of 30 July sent to all staff. It is available on the World Wide Web in this issue of *Staff Notes Monthly*. Facilities Support Services is evaluating the bicycle lockers and will notify staff of any improvements as they become available. In the meantime, Dean suggests that staff not leave bikes in the lockers overnight.

Question 435 (received 30 July):

My bicycle was stolen from one of the bike lockers provided by UCAR in the parking lot of FL4 (UCAR North) in mid-July. I dutifully called NCAR/UCAR security and the Boulder Police to report the theft. The locker was locked as it should be.

I realize that security makes frequent trips to my building throughout the night, but the lockers are so flimsy that one can break in by simply pulling hard on the handle of a locker regardless of whether it is locked or not. This means that it takes no more than one or two seconds to open a locker. After a locker is open, security guards would have no way of knowing whether or not the bicycle is owned by the person standing by the locker unless they stopped and questioned the person. My experience is that security does not bother folks who look like they know what they are doing. (I frequently work until 9:00 or 10:00 p.m. and am never stopped or questioned when seen leaving the building at these late hours.)

Answer (2 September):

Regrettably, after extensive inquiry throughout the organization, I have been unable to identify a formal or informal policy regarding UCAR's reimbursement of employees for loss of their personal property. Apparently, UCAR does not reimburse employees for theft or damage to personal property. It is quite possible that the questioner's bicycle is insured under the theft provisions of his or her homeowner's insurance policy. I suggest that he or she contact his or her insurance agent to determine the extent of that coverage.

--Butch Taylor, Contracts and Risk Management manager

Questions and suggestions from the staff to management may be submitted in confidence to the Delphi coordinator, Rene Munoz (ext. 1173, ML room 135), in written form; they must be signed. Detailed procedures for submitting questions are given in the UCAR Policies and Procedures Manual, section 1-1-13. Questions and answers of general interest to staff are submitted to *Staff Notes Monthly* **by Rene. They may be edited for publication. For more information, see the Delphi Service Web page, http://www.ucar.edu/internal/delphi.**

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Changing times for SCD staff

Flat budgets within NCAR have prompted a number of staff reductions within SCD this month. At the same time, several long-time employees are embarking on their retirements. Below are profiles of some of the familiar faces who will be leaving NCAR soon. (The staff reductions are unrelated to the supercomputer procurement process discussed in the article on page 1.)

A retirement party for Ken Hansen, Bob Lackman, Rosemary Mitchell, and Gene Schumacher will take place on Friday, 26 September from 3:00 to 4:30 p.m. in the Mesa Lab Damon Room. All staff are welcome to attend; there will be cake, Italian hors d'oeuvres, soda, beer, speeches, and presents.

Ken Hansen

Bob Lackman, Rosemary Mitchell, and Ken Hansen

Frequent users of NCAR computers from around the nation and beyond will notice the absence of Ken Hansen. Ken has served as a general consultant for SCD users over the past 15 years, answering countless questions and bringing solace to panicked programmers of all stripes.

"Probably the majority of our questions come from university users, sometimes over the phone but usually through e-mail. We also have a wide variety of users from all the [internal] divisions," says Ken. One of his priorities has been to help clients use their allocations of time on SCD machines as efficiently as possible, rather than eating time up with debugging. In the SCD consulting group, Ken has worked closely with Pete Morreale, Tom Parker, Juli Rew, and group head Jeff Kuehn.

Ken came to NCAR nearly three decades ago--on 18 October 1967, to be exact--after he found out about opportunities on the mesa from a friend. "I started as a computer operator and then moved into programming. For my first assignment, I worked with Warren Washington on his six-level general circulation model, the forerunner of the current community climate model. It's difficult to express my appreciation for the unending patience Warren showed me. In those days we used a Control Data 6600, which was the supercomputer of its day. It had 64,000 words of memory, but only 50K were available to users--the operating system used the other 14K."

Ken's next job was working with Ray Roble (HAO), then a new postdoc from the University of Michigan: "Ray also proved to be a fantastic mentor." Ken joined Bob Lackman (see below) in working at the Research Aviation Facility (RAF) data group before the NCAR programming pool was dissolved in the mid-1980s and Ken moved into the newly formed consulting group within SCD.

Born and raised in Denver, Ken has carpooled from Arvada with fellow SCD employee Dick Sato for many years. Ken plans to stay in the metro area after he retires, enjoying time with his wife and following his grandson Corey's soccer career. "Obviously we'll do some traveling. I'm also going to learn how to cook.

"I love NCAR. I've been so happy here. The work's very interesting, the people are interesting, and the computing

environment changes so fast that it's been a constant learning experience."

Bob Lackman

In the mid-1960s, Bob Lackman was at Hughes Aircraft/Space Systems in southern California and keeping watch on a growing family. "I decided I didn't want my kids to grow up in L.A. I sent my resume to the Boulder Chamber of Commerce and they sent me back an application for NCAR."

After he was hired late in 1967, Bob completed his work at Hughes on the uncrewed Surveyor lunar lander before landing himself on the NCAR mesa in February 1968. He even recalls his first task: "It was to make a computer movie of a standing wave in a box for university scientist George Platzman."

Bob's 30-year career at NCAR splits nicely into decades. The first one was spent programming for a small group of NCAR scientists that included the late Henry van de Boogaard, Doug Lilly (now retired from the University of Oklahoma), and Don Lenschow. "They were all great to work for," he recalls. Then came roughly ten years in RAF. "We developed GENPRO, a GENeral PROcessor for aircraft data. Neil Kelley and Dick Friesen, who headed RAF data management, were both terrific to work with."

In the last decade, Bob has headed up the NCAR Graphics group, overseeing six major releases and eight other revisions to the visualization software. Since NCAR Graphics was copyrighted in 1986, the institution has reaped several million dollars in user fees. More recently, Bob has been involved with the implementation of a processor for climate system model (CSM) data, along with Dennis Shea, who "has been outstanding to work with and has been doing a remarkable job in leading this project."

Of all his NCAR accomplishments, Bob says he's most proud of "the people I hired into SCD, including Gary Rasmussen, Erich Thanhardt, Herb Poppe, Don Middleton, John Clyne, Tim Scheitlin, Ethan Alpert, Jeff Boote, Mary Haley, and David Brown." Regrets? He's sorry he won't be here for the debut of NCAR DataVision, an interactive package scheduled for release next year.

Not that Bob will be lacking for things to do. He hopes to continue as a consultant on CSM and DataVision efforts. Meanwhile, he'll try to improve his German and Spanish, learn Russian, spend winters in the South, visit some of his 60 first cousins and other relatives around the world (including Buenos Aires, Argentina) while completing his 1200-member family tree, and "write a good computer bridge program with graphics." He's bracing himself for bad dreams "about being late for an important work meeting at NCAR and about NCAR/UCAR management learning I vote Republican." And he'll miss colleagues and friends, "the beautiful trip up the mesa each day," and "the latest, best computer toys."

"It seems like yesterday when I walked in here. Such is life."

Rosemary Mitchell

It's almost as unthinkable as the Beatles' breaking up in 1970. But Rosemary Mitchell has worked with the same two colleagues far longer than Paul, John, George and Ringo were together. Rosemary has shared the same office--ML room 4B--with Julie Chapin and Sylvia Darmour since she arrived at NCAR on 25 October 1982. "I think everyone in SCD has moved at least once except us," says Rosemary. "It's kind of unusual. The three of us have been in the same office, working together and growing as our jobs have changed."

Most everyone who has an account on an SCD machine has secured logons and passwords from Rosemary's group, Database Services. At first, the group's job was simply to track the original CRAY-1A's use in batch mode, where users submitted jobs and then waited for output. When the first CRAY Y-MP arrived in 1989 and SCD switched to the Unicos operating system, the group's work expanded to include management of passwords for new interactive accounts.

"Our data base has grown because we keep track of a lot more information: e-mail addresses and fax numbers and Web home-page addresses," Rosemary notes. "Everything is more complex."

Having made the decision to retire back in July, Rosemary is now in the throes of preparing documentation ("always the last thing that gets done") to help Becky Ruttenberg, who is taking on part of Rosemary's job. After her official retirement on 1 October, Rosemary has a more appealing task on her agenda: a trip to visit a friend in New Zealand. Afterward, she'll indulge in her favorite pastimes: reading, gardening, bridge, opera, and theater. You're likely to spy her on the tennis court, too. She competes in U.S. Tennis Association leagues and tournaments and has placed first in statewide competition for mother-daughter doubles.

Rosemary hasn't ruled out the possibility of yet another career. She spent many years as a physical education teacher in elementary and secondary schools before a graduate course in statistics pulled her interest toward computers. In between "public school teaching, raising children, and NCAR," she also taught at the University of Colorado.

"I've enjoyed my years here at NCAR. It's always been different and fun and interesting."

Gene Schumacher

NCAR is the reason Gene Schumacher moved to Boulder in 1963--although it took seven years more for him to actually join the staff. "I'd been in Albuquerque for a year working for Control Data Corporation when NCAR agreed to buy a Control Data 3600. I requested a transfer and moved to Boulder to provide site support," he says. From 1963 to 1970, Gene looked after various machines around town on behalf of Control Data, most notably at what was then the National Bureau of Standards, but he recalls that "by far the main amount of my time was spent working with NCAR."

Gene Schumacher

Gene stayed on top of NCAR's earliest computers as the model numbers ascended from 3600 to 6600 and beyond, while remaining a Control Data employee. Finally, the inevitable happened. "It was about the time that NCAR purchased the [Control Data] 7600 that Paul Rotar asked me if I wanted to work at NCAR. After suitable hemming and hawing, I said yes."

Twenty-seven years later, Gene is closing the books on an NCAR career that's virtually synonymous with the high-performance machines he's managed. He calculates that he's been involved in the installation of 18 supercomputers. From the day in 1976 when the first production-model Cray arrived at NCAR, Gene has headed the Cray support group.

"Many times I'd think I should move on, but then I'd look around and say, 'What could be better?' They say you're defined by your job, and I guess I'm guilty of this. I feel like NCAR."

Be that as it may, Gene is duly preparing for life after NCAR. "I've got an endless list of home repair projects," he sighs. He's looking forward to getting back into drawing, painting, and photography--"I haven't had the time to devote to it that I'd like"--and he might even hit the golf course now and again. With sons on both coasts (Seattle and New York) and parents in Montana, there will undoubtedly be travel on Gene's horizon.

However, it's unlikely he will become a sudden stranger to the Mesa Lab. Gene expects to drop in as a casual employee, "which would give me a chance to work on some of the fun things, mainly the technical problems, which I always enjoyed more than administrivia."

Making the decision to retire, says Gene, "was even a bigger decision than coming to work here. NCAR's been a great place to work, mainly because I've had a chance to work with the biggest and the best: leading-edge computers and leading-edge problems. It's been a marvelous combination."

Sue Ellen Jensen

Sue Ellen Jensen's departure from SCD in the recent staff reductions comes nearly 20 years after she joined the division. That's more than half her life.

"I'd just graduated from Fairview High School in the summer of 1977, and Carl [Mohr, former NCAR employee and Sue Ellen's brother-in-law] said, 'You ought to apply for a job at NCAR.' I had absolutely no computer experience." She applied for a part-time summer job in the machine room but didn't make the cut. However, "they kept my application on file and called me up in December, when there was a four-month temp job as a tape library aide." The position turned out to be Sue Ellen's niche. "Back then we had so many 9-track and 7-track tapes, and they just weren't being taken care of. So I became the half-inch tape librarian," joining Mary Trenbour, who managed two-inch videotapes for SCD's AMPEX mass storage system.

Sue Ellen Jensen

In 1986, the AMPEX system was shelved, Mary retired, and Sue Ellen took on primary responsibility for the remaining tape libraries. More recently, she inherited some of Bob Niffenegger's tasks as Bob, the former SCD operations manager, transitioned into retirement.

"It's been fun," says Sue Ellen, "and I will miss all the people I know in SCD. From the days when everybody did tapes, I've gotten to know a lot of NCAR and university users." She invites friends and colleagues to catch her at concerts with the Boulder Chorale, for whom she sings alto and tirelessly volunteers.

As she plans her next career move, Sue reports that "it's kind of nice to be spending time with my two black cats, Raisin and Rosebud. They haven't quite figured out why I'm spending so much time at home."

Karen Friedman

Karen Friedman, another SCD employee whose position was eliminated, has just returned from a hiking trip to Switzerland. "We were planning to climb the Matterhorn, but by the time we got there, there was too much snow, so we ended up climbing the Breithorn and Allalinhorn. They're both 13,000-plus-foot peaks."

Like Sue Ellen, Karen spent 20 years at NCAR, first as a writer/editor in the former Systems Section. She went to work for Bill Buzbee in the director's office, doing special projects (conferences, publications, and the like). She also worked in User Services and in the Digital Information Group.

Karen will continue working for NCAR as a casual through January, serving as registration chair for the Supercomputing '97 conference. "I've really enjoyed the service-oriented, problem-solving end of my job. I've also enjoyed event organizing and Web development. Hopefully I'll find a way to expand in those areas. I'd like to continue in technical writing as well. And I'd definitely like to stay in Boulder." She also hopes to go to Patagonia next year for trekking--"that's a big part of my life too.

Karen Friedman

"Twenty years is a long time to work at any job. For me, it was a good 20 years--it seemed to go really fast. I appreciated the professional freedom I had to expand within the organization and define roles as I went along.

"My friends at NCAR became my family. That's what I'm really going to miss, those connections." •

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Edited by Bob Henson, bhenson@ucar.edu

Prepared for the Web by Jacque Marshall

September 1997

New Hires

(front row, left to right)
Malissa Supino, accounting support I with F&A.
Thomas Jordan, technician I with UNAVCO.
Pam Hale, imaging technician with ISS.
Louis Estey, software engineer/programmer III with UNAVCO.
Gregory Hakim, postdoctoral I with ASP.

(front row, left to right)
Joe Fowler, software engineer/programmer I with ACD.
Matthew Park, student assistant II with HAO.
Richard Johnson, systems administrator II with SCD.

(second row)
John Magistro, postdoctoral I with ASP.
Jack Fellows, vice president for corporate affairs and director of UOP.
Kathryn Schmoll, vice president for finance and administration.
Hardi Peter, postdoctoral I with ASP.

(standing)
Marilyn Cummelin, administrative assistant II with JOSS.
Clara Deser, scientist II with CGD.
Colleen O'Toole, student visitor with CGD.

Other new hires

Michele Betsill, casual with ESIG.
Carolyn Bousquet, administrative assistant II with MMM.
Julie Bowers, web specialist and database designer.
Charles Brock, scientific visitor with ASP.
Stewart Carrera, administrative assistant II with NOAA/OGP.
Thomas Hamill, postdoctoral researcher I with ASP.
Konrad Hughen, postdoctoral researcher I with VSP.
Hoonil Kim, student assistant with HAO.
Joan Morton, casual with UCAR Office of the President.
Doug Nychka, scientific visitor with CGD.
Melissa Richey, graduate research assistant with RAP.
Qingyuan Song, postdoctoral researcher I with VSP.
Stephanie Tiller, administrative assistant II with NOAA/OGP.
Veronica Vaida, scientific visitor with ASP.
Melanie Wetzel, scientific visitor with VSP.
Weiyu Yang, scientific visitor with VSP.

Departures

Nolan Atkins, 29 August	**Zhan-Qian Lu**, 1 August
Tiffany Omeron Bernstein, 20 August	**Justin Mericle**, 31 July
Timothy Bowen, 30 May	**William Merryfield**, 31 August
Matt Briggs, 8 August	**Christopher Moore**, 31 July
Amara Tandy Brook, 1 August	**Karen Mozealous**, 8 August
Jackie Burge, 29 August	**Shirley Murillo**, 8 August
Mariah Carbone, 15 August	**Eric Nienhouse**, 7 August
Christopher Castro, 8 August	**Colleen O'Toole**, 22 August
Tim Catalano, 1 August	**Sharon Perez-Suarez**, 8 August
Roy Dawson, 1 September	**Paneen Petersen**, 5 August
Jazmin Diaz-Lopez, 8 August	**Darnell Powers**, 8 August
Yann Dubois, 1 September	**Jennifer Price**, 8 August
Carl Etsitty, 6 August	**Juli Rasmussen**, 1 August

David Failing, 1 August	**Michael Read**, 22 August
A.F. Fanning, 31 July	**Stephanie Rivale**, 15 August
Galen Fowler, 22 August	**Lynn Russell**, 5 September
Quindi Franco, 15 August	**Rebecca Sobol**, 25 August
Preston Heard, 20 June	**Jim Steg**, 15 August
Lacey Holland, 8 August	**Kiesha Stevens**, 15 August
Martha Howland, 8 August	**Elizabeth Stone**, 31 August
Sue Ellen Jensen, 2 September	**Rachel Vincent**, 8 August
Carla Kegley-Owen, 23 August	**Tsegay Wolde-Georgis**, 1 August
Terry Leach, 1 September	**Fred Woodley**, 2 September
Albert Lee, 22 August	**Jennifer Zabel**, 8 August
Weng-Mui Lee, 31 August	**Yuxia Zhang**, 31 August
Richard Levine, 1 September	**Jiangfen Zheng**, 31 July

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