June/July 2002

ON TARGET

THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY • A DEPARTMENT OF ENERGY FACILITY

JLab Center of Excellence

After being part of search team, Merminga tapped to lead CASA

Lia Merminga knew she had her work cut out for her as chair of a committee searching for a director for Jefferson Lab's Center for Advanced Studies of Accelerators (CASA). Little did she realize that, nine months into the search, she would be the very person tapped for the position.

"I didn't think I'd end up with this kind of job. It's a humbling experience," Merminga says. "It's a big job and a big responsibility. But I am very enthusiastic. I know CASA's people, their capabilities and their talents. There are people in CASA who are internationally recognized experts. We have a very strong group. There's a lot of potential to harness."

As a member of the Accelerator Physics Group, CASA's predecessor, Merminga has been at JLab for 10 years. Previously CASA deputy director, her appointment as director was made official on May 1.

CASA's staff all work in the Applied Research Center. Half are tasked to accelerator operations support, while the remainder are engaged in various forms of accelerator research and development.

"CASA opens up new possibilities in accelerator physics worldwide," Merminga says. "As one pushes for beams of higher energy and quality, certain technical problems arise. We are here to identify those problems and solve them."

CASA joins the Institute for Superconducting Radio-Frequency Science and Technology (ISRFST) as two newly created centers intended to capitalize on JLab's core expertise in accelerator physics and technology. Both are bringing experts together from throughout the Lab in administratively distinct groups. CASA and ISRFST teams are being called upon to address issues related to superconduct-

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Lia Merminga (front row, 4th from left), director of Jefferson Lab's Center for Advanced Studies of Accelerators, poses for a group photo with her staff.

JLab Center of Excellence...

Lia Merminga
Director, Center for Advanced Studies of Accelerators

"We dream that one day we'll have on site an electron-ion collider for nuclear and particle physics research — a possible next step beyond the 12 GeV upgrade of CEBAF," says Lia Merminga, the newly named director for Jefferson Lab's Center for Advanced Studies of Accelerators (CASA). "We want to grow into the basic sciences — especially those driven by an on-site light source that will produce ultra-short X-ray pulses for materials, biological and life sciences and health-related diagnostic purposes. And, we hope they will be based on the technology of recirculating and energy-recovering linacs, which we've successfully demonstrated with the FEL."

Continued from page 1

ing radio-frequency technology, propose new approaches, and create next-generation ideas and facilities. CASA and ISRFST are financially supported by the Laboratory's nuclear physics and Free-Electron Laser (FEL) programs, with additional assistance from funds available from work being conducted on the Spallation Neutron Source (SNS).

CASA's mandate includes maintaining existing and establishing new collaborations in national and international projects, establishing safety practices commensurate with these activities, and supporting a strong program of mentorship and training. Among the early institutional priorities is the establishment of strong collaborations with other Lab departments and divisions.

CASA's primary mission is to generate, investigate and distribute the latest findings on advanced accelerator and beam physics, especially that knowledge generated at the Lab. A secondary goal is to provide an organized archive for retaining information generated by the Accelerator Division so that such information will remain available to guide future projects.

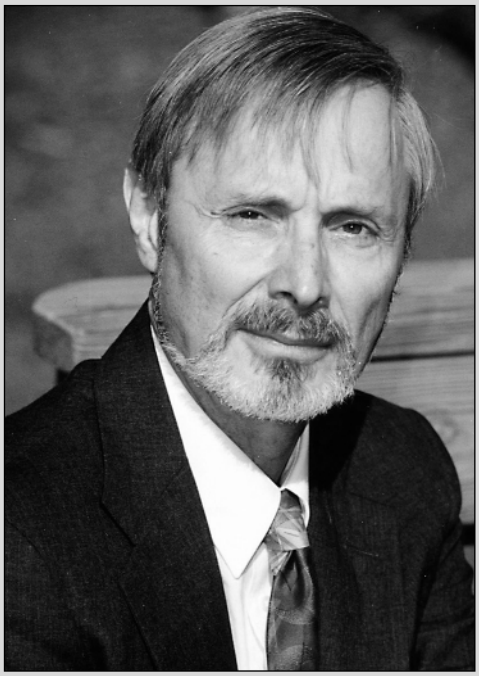
The center will conduct materials studies to support improvements to the superconducting niobium cavities comprising the Lab's accelerator complex, investigate advanced designs for other recirculating and energy-recovering electron accelerators, work to develop the next generation of electron-beam diagnostic devices, and propose methods of controlling accelerators by means of computerized feedback systems. Also on CASA's agenda is refinement of the theoretical calculations that predict electron-beam behavior.

"CASA exists because of what's here already," Merminga points out. "But the Laboratory's future to a large extent will depend on what new facilities we create on site. CASA's responsibility is the design, operation and commissioning of these facilities."

Currently, CASA staff are working on the commissioning of G0, a new Hall C experiment. The CASA team is also designing a beam-transport system for that experiment, such that its quality will remain high for the duration of the experiment.

In addition, CASA is working with the Lab's FEL group on the FEL's upgrade to 10 kilowatts, conducting computer simulations of improvements to the electron beam that produces the laser's tunable, focused light. In all, some 20 staff and 30 contractors are working 60-hour weeks to complete the upgrade by this coming October. All the FEL's physical elements are slated to be connected by October 1, with recommissioning slated in stages throughout 2003.

Geoffrey Krafft, who served as CASA's acting director May 2001 through April 2002 has assumed the post of CASA deputy for technical research and development; and Jay Benesch has taken on the duties of CASA deputy for machine physics in support of CEBAF and other machine operations.



Christoph Leemann
Jefferson Lab Director

From the Director

Performance management: The basis of continuous improvement

In the coming months and years I will address as a recurrent theme the topic of employee performance and performance management. The well being of the Lab and thus our jobs and careers depends on many things. Performance is a critical factor, and the performance of the organization as a whole is built on the individual performance of each one of us.

In 1993 Congress passed and the President signed into law the Government Performance and Results Act (GPRA); and as a consequence, we are being held more and more stringently to meet certain objective, quantifiable, and measurable goals. Our performance based contract with the Department of Energy is an expression of this thinking, and future goals for the Office of Science include not only objectives for reliable facility operations but the achievement of scientific objectives, such as describing by 2015 the properties of nucleons and light nuclei in terms of properties and interactions of quarks and gluons.

We have no control over the surprises that nature may put in our path, but we have almost complete control over our own performance although we can be and are influenced by our environment in terms of resources, coworkers, and leaders, and in turn by the same means, influence the performance of others. Taking control of our own performance and positively influencing that of others is the objective of performance management.

Performance management should foster continuous improvement by encouraging supervisors and employees to communicate regularly, to set meaningful, challenging work objectives and priorities, give and get immediate, objective feedback, identify opportunities for improvements, and determine ways to measure those improvements. It brings everyone's efforts into alignment with the Lab's goals, thereby avoiding wasted time, effort and resources. Good performance management is integral to proactive planning, which allows a supervisor and his or her employees to identify new skills or cross training that may be needed to meet Jefferson Lab's mission — today, next year, and well into the future. To continue our success at JLab, and to meet tomorrow's challenges, we must work together to raise our standards. We can have a better, more effective performance management process. Our performance appraisals are a critical element in performance management and Lab leadership is working to make this a constructive process.

Developing new systems takes time but fortunately we don't have to wait for systems. The most important determinant is our mindset, and I want to challenge you to a more or less radical shift. You know good performance from bad. Whether you listen to a string quartet or watch a basketball game, you know a good show from a bad one; you know from your work or your leisure pursuits the thrill of a truly fine accomplishment. Let's build a culture that takes great pride in what we do well, strives to improve, orients itself on peak performance not the average, and is intolerant, completely intolerant to mediocrity.

And to all the many of you who serve already as examples of these attitudes: thanks a lot, and be assured of my deep appreciation, and continue to set the standard.

In Memoriam

Dieter Cords
Hall B Data Acquisition
Group Leader

JLab mourns loss of Dieter H. W. Cords

Dieter H.W. Cords, 64, Leader of the Hall B Data Acquisition Group and member of the Jefferson Lab family since 1994, died June 21 while on a hiking trip along the Appalachian Trail in Nelson County, Virginia.

He was born in Hamburg, Germany, in October 1937 and studied at the University of Hamburg, where he received his Ph.D. in Particle Physics in 1969. He came to the U.S. in 1970 and taught physics at Purdue University before returning to Germany in 1974 to continue research in computing and artificial intelligence related to high-energy physics in the Computing Group of the Research Division at DESY (Deutsches Elektronen Synchrotron) the high-energy physics laboratory in Hamburg. In 1984, he took a position as a Staff Scientist at the Stanford Linear Accelerator Center, SLAC, in California. His main responsibility was to coordinate the data acquisition effort for the MARK-II detector at the electron-positron collider PEP and later for the SLD detector at the Stanford Linear Collider.

In March 1994, Dieter Cords accepted an offer from the Hall B Group at Jefferson Lab, to head the data acquisition effort for the CEBAF Large Acceptance Spectrometer, CLAS, which was being constructed to study the structure of matter via elementary reactions produced by high-energy electron and photon beams. The design goals for the data acquisition speed of the CLAS spectrometer were extremely challenging, and beyond what had been previously accomplished by the nuclear physics community.

Dieter led and coordinated the activities of the Hall B data acquisition group and those outside collaborators who were involved in the Hall B on-line computing effort. As a result of his advanced knowledge and foresight provided during development, the facility was able to exceed its original design capabilities. The system currently exceeds the original design specifications by more than a factor of two, providing the research world of particle physics with significantly more research data on a given run than originally anticipated.

In a letter to CLAS collaborators, Bernhard Mecking, Hall B Group leader, wrote, "He was a true scientist and a gentleman. We will miss him greatly. He paid tribute to Dieter's friendly and professional manner, and how closely he worked with fellow collaborators.

"I worked with Dieter until the very last day. He was both my teacher and a friend," said JLab Physics Division scientist, Vardan Gyurjyan, at the memorial service. "He fostered scientific excellence in an atmosphere of cooperation and mutual respect…. I feel no need to speak of his scientific achievements, but rather about him as a teacher and a friend."

"He fathered a tremendous number of young scientists at DESY Hamburg, SLAC and at Jefferson Lab. He was a family man both in his own family and in the family of science. There was great harmony, a great feeling of family that is rare in science, among the people who worked with him. We were his scientific sons and daughters, his scientific progeny."

"[H]e told me how important it is to always do the main thing," Vardan Gyurjyan reminisced. "Otherwise the irrelevant, no matter how important it might seem to be, will consume all your energy and prevent you from getting to the roots…. Dieter was of scientific mind with an extraordinary intellect. An ethical, fiercely loyal and an honest man, he was never long on the horns of a dilemma. Indeed, I have often, and will continue to ask myself from time to time, 'What would Dieter do?'"

Dieter is survived by his wife, Renate, and his son, Florian, who live in Williamsburg, and by his daughter, Annette, who lives in New York. The memorial service was held June 28 at the Williamsburg Community Chapel.

Gaskell wins 2001 SURA Thesis Prize

The 2001 Southeastern Universities Research Association (SURA) Thesis Prize was awarded during the Jefferson Lab User Group meeting on June 10. David Gaskell, author of "Longitudinal Electroproduction of Charged Pions from Hydrogen, Deuterium, and Helium-3", accepted the award — a plaque and a check for $1,000 — from User Group Board of Directors chair, Alan Nathan.

Gaskell completed his Ph.D. in Nuclear and Particle Physics at Oregon State University last spring. He is currently working as a postdoc at the University of Colorado, and is scheduled to return to JLab in September as a Hall C staff physicist.

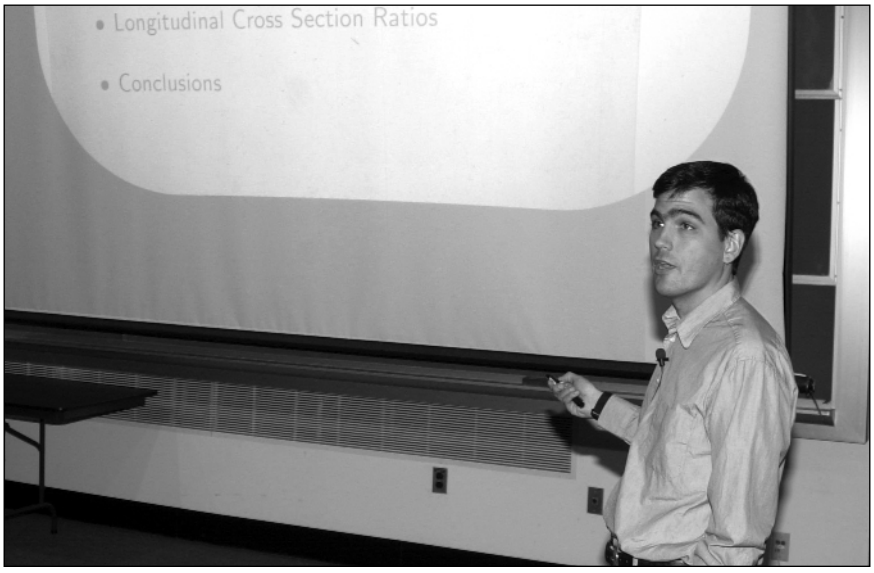
His research paper was based upon work he did in Hall C, between February and April 1998, during experiment E91-003. "I was working on a couple other small projects at the Lab," Gaskell recalls, "but I wasn't really scheduled to work on any particular experiment for my thesis. E91-003 was coming up, and there was only one other thesis student on the experiment at that time (Steve Avery from Hampton). So Hall C's Rolf Ent and Thia Keppel asked one of the experiment spokespersons (Hal Jackson from Argonne) if I could work on his experiment for my thesis."

Gaskell's biggest challenge was determining the best way to analyze and present the data. "On the one hand, the experimentalist in me wanted to interpret the data as little as possible — just produce and present the results in the most straightforward way, so a theorist could pick up the results and use them as-is. On the other hand, it's not very intellectually satisfying to not interpret your data at all. I tried to strike a balance between the two — doing some relatively simple interpretation, but trying to make it very clear what was a measured result and what was 'my take' on what that result meant."

He remembers his nearly two years at the Lab fondly. "I had a great time at JLab. So many people were really helpful," he says. "I worked on a variety of things before E91-003 ran — a couple different laser projects, several small analysis tasks, and helping to run other experiments."

Gaskell was excited to learn that he'd received the thesis award. "Wow," he exclaims. "You work a lot on writing this thing, but you don't really think anyone outside of your supervisor and Ph.D. committee will really read it. Just finishing your thesis is very rewarding, but it feels good to know that someone else thought it was a good piece of work. I want to acknowledge all the people who helped me along the way."

Does he have any special plans for the $1,000 check he received for writing the winning thesis? "No, not really," the young man says with a smile, "but my wife, Karen, keeps joking that I need to buy her a kayak."



David Gaskell presented and discussed his award-winning thesis on June 10, the first day of JLab's User Group meeting.

David Gaskell, 2001 Thesis Prize winner

Top paper recognized

Experiment E01-006 co-spokespersons Oscar Rondon (left), University of Virginia scientist, and Mark Jones, Hall C staff scientist, take a break from data analysis.

Hall C experiment delves into nature's blueprints

Building a bridge over land or water requires careful engineering. There is the weight of passing cars and trucks to consider. Will high winds or turbulent weather threaten the structure? How deep should the concrete foundations be poured? How best to affix the steel supports? What is the ideal mix of materials for strength, durability and corrosion resistance?

Nature has long ago figured out how best to arrange atoms that comprise ordinary matter. The nuclei inside those atoms are systems of quarks, the particles thought by many to be matter's basic building blocks. Humans are only now beginning to unravel the engineering secrets of quarks, how they are precisely arranged and how their interactions determine the properties of the atomic nucleus.

In Hall C, in an experiment that began on January 21 and concluded on March 3, researchers took a closer look at matter's blueprints with a study of the spin-structure functions of the proton and the neutron, collectively known as nucleons. Nucleons are the smallest "everyday" objects made of quarks. Spin is a mathematical property analogous to the way objects physically spin in space, contributing to and affecting the subatomic properties within an atom's nucleus. Although seemingly limited to the realm of the infinitesimal, scaled up macroscopically those properties eventually affect all things of "normal" size.

"In the big picture, we'd like a better understanding of how quarks are bound up in nucleons," says Mark Jones, a Hall C staff scientist and co-spokesperson for the experiment. "Quarks are not free-floating particles. Because they're in the nucleus, the nucleus becomes a much more complex object. We're interested in the details of that complexity."

The Hall C experiment was sensitive to the kind and degree of spin, with a powerful detector that is able, like a kind of electron microscope, to "see" into regions otherwise hidden from view. The CEBAF beam of electrons "illuminated" the nuclear material of their target, and investigators measured the number of electrons that scattered into the detector. With these data, researchers hope to discern the distribution of the quark's spin inside the nucleons.

The genesis of the experiment was in studies at the Stanford Linear Accelerator, or SLAC and at CERN, in Geneva, which probed the quarks under conditions in which large amounts of kinetic energy are exchanged. In these "deep inelastic scattering" conditions the movement of quarks is not completely understood. The Hall C experiment was proposed in 1996 by co-spokesperson Oscar Rondon, a University of Virginia scientist, to extend the range of those measurements including all possible combinations of spin orientations for protons and neutrons. Related experiments in Halls A and B have explored complementary aspects.

The study required a specialized target that was polarized. Polarization refers to the alignment of spin of protons and neutrons within the target material: in this case, small chunks of solid ammonia that were kept near absolute zero, at one Kelvin, or minus 458 degrees Fahrenheit. A strong magnetic field created the desired polarization. A University of Virginia team developed and prepared the experiment's target.

"We can get a highly polarized beam," Jones says. "The Lab has spent a lot of time developing such a beam and has the expertise to maintain it. But as the target gets irradiated it loses polarization. Periodically, we had to stop the beam, remove the radiation damage by annealing, and then repolarize the target." In the experiment's aftermath, during data analysis, researchers are also having to adjust for the subatomic structure of nitrogen, a chemical constituent of the ammonia target, which affects the data taken.

Jones reports that the experiment went well, and that investigators obtained the amount and quality of

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Teaming up for a cause

Lab employees tackle MS 150 bike ride

Imagine an event that tests your strength and endurance, allows you to support medical research of a devastating disease, and challenges you to have an inordinate amount of fun.

Such an event does exit, according to a handful of JLab employees. It is the MS 150 Bike Tour. Every year, more than 70,000 riders participate in one of the 120 bike tours held across the country. This was the 22nd year it has taken place in this area. The nearly 500 riders in this year's local event, held June 1–2, raised over $300,000 for Multiple Sclerosis research, treatments and support groups. MS is a chronic, often disabling disease of the central nervous system that affects a third of a million Americans.

This year three Lab employees and a spouse registered for the event, rounded up their pledges, grabbed their biking gear and experienced a weekend of fun, personal growth, physical activity, and service to others.

It started with a fourth Lab employee, Cindy Hall from the Computer Center, who recruited Mary Jo Bailey, Office of Technical Performance; her husband Bruce; and Jim Parkinson and Brian Carpenter, from the Accelerator Division, for the Team Killer Bees. Over the past three years, Team Killer Bees, sponsored by the Peninsula Bicycling Association, has been the largest team at the local MS 150 ride.

"I have a close friend whose mother has MS," says Jim Parkinson. "While I really enjoyed the biking, this is something I wanted to do to support research of this terrible disease. It's a great way to raise money for the National MS Society and to help raise awareness about the disease."

"I have friends who have done this before," adds Mary Jo Bailey. "Bruce and I had wanted to do the MS 150, but we had family scheduling conflicts over the last few years. This year everything worked out. I'm so happy we did it. It was a great experience."

Cyclists choose to cover 150, 175 or 200 miles over the two-day ride. Parkinson says event organizers make the bike ride easy to prepare for with well-developed information kits.

"They also did a great job planning the event," Bailey continues. "The 491 bikers left the Suffolk Airport on Saturday morning. We had regular rest stops, snacks, and a lunch stop. A very nice dinner was waiting for us at our overnight destination in Murfreesboro, N.C., and an evening concert for entertainment. We came back the next day on a different route; and the organizers even had pickup vehicles to bring in the riders who were ready to stop."

After completing the 75-mile ride on Saturday, Carpenter and Parkinson checked in with officials, then went back out for an additional 25 miles, making the day a "century ride" for the two. Parkinson repeated the process on Sunday, thereby completing two century rides.

"It's not a race. You go at your own pace, and we started in staggered groups," Parkinson explains. "But our adrenalin really got going once we started. We did better than we thought we would." Carpenter and he wound up finishing 25th overall on the first day. "Not bad since most of the riders were a lot younger than me," he notes.

The four raised $1,300 for the National MS Society. They're already talking about next year's MS 150 and making plans. "We'd like to have a JLab team," Parkinson says.

Taking a break on the second day of the local MS 150 are (from left) Brian Carpenter, Mary Jo Bailey and her husband Bruce, and Jim Parkinson.

"Dear Mike. . ."

An inquiring student interviews JLab scientist & free-electron laser expert, George Neil

Student questions about physics pop up continually through the JLab web site. In one recent case, those individual questions became more comprehensive. The result was an electronic interview. What follows is the e-dialogue between Mike, a ninth grader from Minnesota, and George Neil, FEL deputy program manager.

----- Original Message -----

From: Mike

To: neil@jlab.org

Subject: Questions on lasers from a 9th grade student in MN

Hi,

My name is Mike. I am a high school student in MN. We have to do a research paper and I chose the topic lasers. I am hoping you can help by answering a few questions I have.

What is your job title? And what is your educational background?

Please give a brief explanation of what you are currently studying, and how long you have been studying this topic.

What do you do to contribute to what you are studying?

What are some interesting things you can do with the laser?

Are there any stories or things that may have happened to you that you find interesting that have to do with lasers? If so, what?

As I have been researching lasers all I have been seeing are good things about the laser. The laser can cure some diseases. The laser can help defend the nation. The laser can improve communications around the world. What are some bad things (problems) about the laser?

Thank you for your time and feel free to add anything that you think is appropriate to the topic.

Sincerely,

Mike

Re: Questions on lasers from a 9th grade student in MN

From: "George R. Neil" <neil@jlab.org>

To: Mike

References: 1

Hi Mike

Thanks for your note. I'll try to answer your questions. BTW Although I am out here in Virginia, I went to school in Wisconsin. My wife is from Thorp WI and I have a brother-in-law from White Bear Lake and another sister in St. Paul!

My title is Deputy Program Manager of the Free Electron Laser and I'm a Principal Scientist at Jefferson Lab. We work for the Department of Energy.

I have a Bachelor's degree from U.Va. in Engineering Science (kind of a general engineering degree) and a Master's and Ph.D. from U. Wisconsin in Madison in Nuclear Engineering. It took me 10 years after high school to get through all that.

I work in electron accelerators and high power lasers and have been doing that since about 1980. We accelerate electrons to very high energies (about 6 billion volts) where they are traveling 99.999998% of the speed of light. At that energy they weigh 12,000 times what they do when they are just sitting around. As you try to make them go faster they just get heavier and heavier. That's why you can't really make anything go faster than the speed of light in a vacuum. It would weigh more than the universe.

The lasers I work with make light of all one color, all in phase. The difference between the light in your classroom and my laser is like the difference between noise and the pure tone of a violin. Our laser is more advanced than most and can change its

Continued on next page

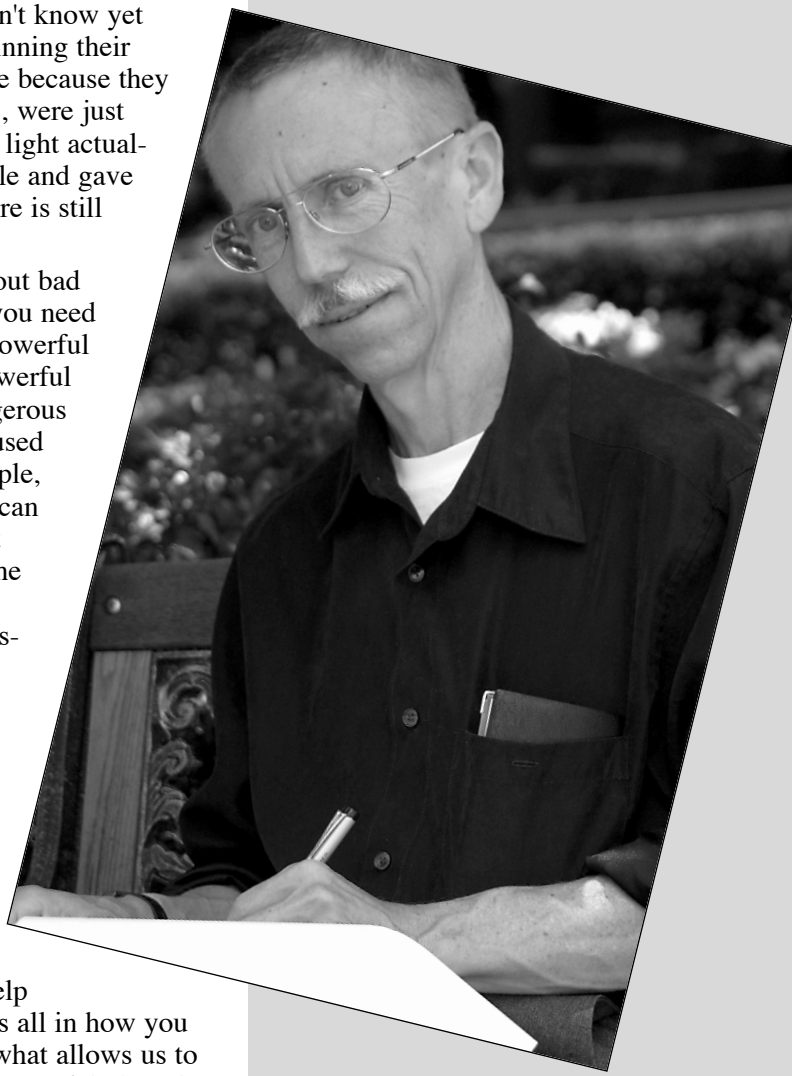
Dear Mike. . .

Continued from page 8

"tone" (wavelength) so we can match resonances in molecules. Just like that famous TV commercial where the singer sings the right tone and the glass breaks, our laser sings the right wavelength of light and molecules can break apart in very specific ways. With this high power laser we can do all sorts of interesting things to change the properties of metals and plastics. We hope to make this a commercial item some day but it needs more study.

I contribute by doing all sorts of things: I come up with new ideas to test. I actually do some of the tests by shooting the laser at a surface and then analyzing the surface to see if it has changed, I write papers and talk about our results with other scientists. (That's fun - I get to travel all over the world and I have friends in Japan, China, Germany, Italy, Russia.) I also have to keep track of how much money we are spending and make sure we don't spend too much, I make sure we do what we have promised for the money the government gives us and do it by when we said we would have it done. I have to make sure everybody does things safely, and last but most definitely not least I have to write proposals to ask for more money to allow my team to continue studying the laser next year or I'll be out of a job!

One of the more interesting things that we have done with the laser is see if the light can directly transmit energy to bacteria. There's a bacterium called E. coli in your gut, which helps you digest food. To swim around it has a little tail, which it rotates. One of our scientists knew the wavelength absorbed by the molecule that makes the energy for this tail movement so we tuned our laser to that wavelength and shone the light on the bacteria while we watched under a microscope. The bacteria all started spinning their tails, which was very funny! We have to be careful though about interpreting the results. We don't know yet whether they were spinning their tails to get out of there because they didn't want a "suntan", were just too hot, or if the laser light actually went to the molecule and gave it extra energy. So there is still more work to do.



When you ask about bad things with the laser you need to realize that it is a powerful device and like all powerful devices it can be dangerous or cause problems if used improperly. For example, fire can be good or it can kill people if we don't take care around it. The laser is no different. Some are used to transmit Internet signals down optical glass fibers and some can be used to shoot down missiles. If you look at a very bright laser beam it will blind you. But it can also be used by doctors to improve vision and help prevent blindness. It is all in how you use it. Knowledge is what allows us to work around such things safely by taking the proper precautions. We wear special glasses around medium power lasers and we don't even allow people in the same room when our high power laser is turned on; if you accidentally put your arm in the beam it would burn it very severely, just like a blowtorch.

I hope this has been helpful.

George

Briefs

Milestones
for April 2002

Hello

Donald H. Barr, Machinist, Accelerator Division

Richard K. Cothren, Project Planner, Accelerator Div.

Constance Y. Creech, Diagnostic System Technician, Accelerator Div.

Rose M. Durham, Front Desk Clerk, SURA

Christopher M. Kerns, RF System Technologist, Accelerator Div.

Diane M. Napier, Systems Engineer, Accelerator Div.

Gregory W. Newkirk, RF System Technologist, Accelerator Div.

Goodbye

Margaret P. Malvin, Employment Administrator, Administration Div.

Yury Simonov, Visiting Staff Scientist, Physics Div.

Ronald L. Zarobinski, Cryogenic Target Technologist, Physics Div.

for May 2002

Hello

James D. Brock, Cryogenic Target Technician, Physics Div.

Robert A. Rimmer, Chief Lab Radio Frequency Scientist, Accelerator Div.

Scott E. Windham, Control System Technologist, Accelerator Div.

Goodbye

Tanya M. Lanuzo, Assistant Librarian, Administration Div.

Casie J. Weaver, Benefits Representative, Administration Div.

JLab wins pollution prevention award

Jefferson Lab was recently one of 101 regional organizations, businesses and industries receiving the highest level of recognition for environmental stewardship by the Hampton Roads Sanitation District.

During the annual HRSD Pretreatment Excellence & Pollution Prevention Awards presentation held May 8 in Virginia Beach, the Lab received a Gold Pretreatment Excellence Award for 2001.

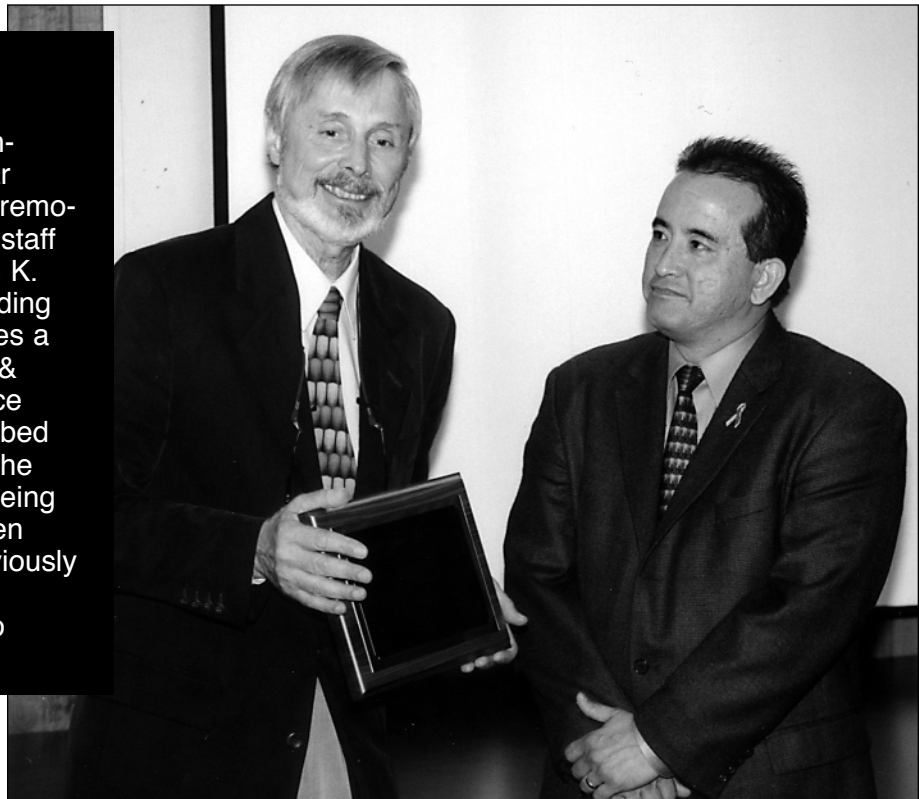
The Gold and Silver awards recognize area Industrial Wastewater Discharge Permit holders for their outstanding efforts during the previous calendar year. The Gold award goes to those organizations that completed the year with a perfect compliance record — no administrative or technical violations. An additional 46 organizations earned Silver awards, for having no more than one violation for the year.

The HRSD serves a population of 1.5 million in 17 cities and counties in Virginia, providing wastewater collection and treatment, and related services. The annual pollution prevention awards are given to honor industrial and commercial dischargers for outstanding pollution prevention efforts.

Special thanks for earning this recognition go to the Plant Engineering and Radiation Control staff members for their efforts in managing our permit requirements, says Lab EH&S Reporting Manager, Carter Ficklen.

Hats off to J.K. Hill!

Winning SURA/Jefferson Lab's Small Disadvantaged Business Contractor Award for fiscal year 2001 is J.K. Hill & Assoc., Inc. In an awards ceremony on May 9, Lab leadership and procurement staff and DOE Site Office officials congratulated Jim K. Hill and many of his employees for the outstanding job they do supporting the Lab. J.K. Hill provides a variety of material services, including shipping & receiving, property management and conference set-up. Lab Director Christoph Leemann described the company as "top notch," and commended the company for providing quality service and for being consistently responsive to the Lab's needs, even when under tight deadlines. The company previously won the award for fiscal year 1998. Pctured, Leemann presents a commemorative plaque to company president, Jim Hill.

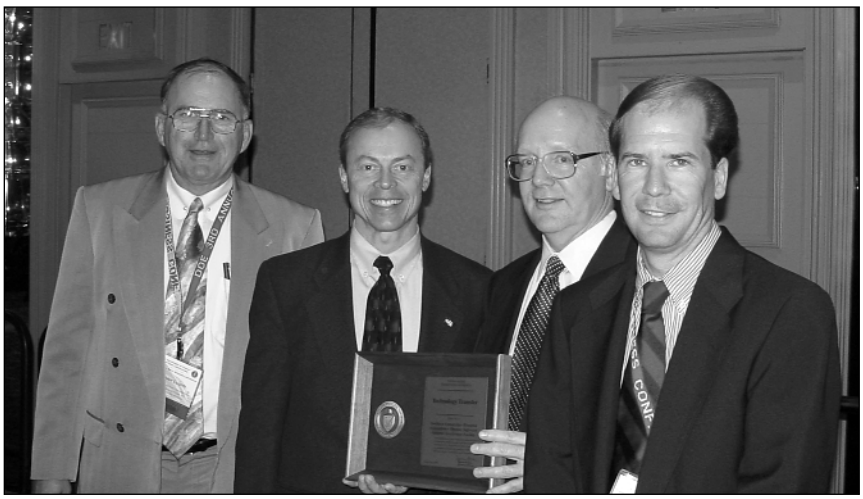


DOE recognizes JLab's tech transfer program

The Department of Energy selected Jefferson Lab as having the best Small Business Technology Transfer program for 2001. Roy Whitney, associate director for Administration, accepted the award on behalf of the Southeastern Universities Research Association during DOE's third annual Small Business Conference, on May 21 in Orlando, Fla.

The technology transfer award recognizes a DOE prime contractor that has excelled in its efforts to transfer its scientific technology to small businesses in developing practical applications for the commercial market, according to Danny Lloyd, SURA/JLab Purchasing & Small Business manager. Two small businesses were able to directly apply JLab research technology toward developing products for commercial applications.

Jefferson Lab's technology transfer program was specifically cited for encouraging small businesses, woman-owned businesses, and small disadvantaged businesses to participate in cooperative research and development agreements. Results of this effort have been direct collaborations and contributions to the Lab's Free-Electron Laser consortium and program by these small businesses.



From left, Danny Lloyd, SURA/JLab purchasing and small business manager; Robert G. Card, DOE under secretary; Roy Whitney, Admin. Division associate director; and Wayne Skinner, DOE Site Office, assistant manager for administration, pose with JLab's Tech Transfer award. Under Secretary Card presented the award at the DOE Small Business Conference.

"This award recognizes the direct link between DOE's research role and the country's economy," Lloyd points out. "The Lab's world-class science is already having a positive impact on the small business community and has a large potential for economic development."

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Lab employees, users and interns: need a one-stop location to find out what's going on at Jefferson Lab?

Check out the Insider web page at www.jlab.org/insider/ for your day-to-day Lab information needs. The page highlights Lab news, each day's scheduled activities and events, the weather and even the cafeteria's breakfast and lunch menus.

The Intranet web page also provides direct links to a number of the Lab's most-used web pages, including All Staff Memos, the Benesch Report, the At-A-Glance Calendar, JLab Mailing Lists, the JLab Activities Group, a link to your MIS My Page, the weekly On-Target Briefs, the Lab's On Target newsletter, User Group News, and much more. "When you are on campus, it is the most convenient and quick way to find out what is going on at the Lab" says Linda Ware, Lab Public Affairs manager.

JLab earns minority business accolades

The Tidewater Regional Minority Purchasing Council recently recognized the Southeastern Universities Research Association and Jefferson Lab, for the second time in six months.

TRMPC awarded SURA/JLab its second Corporate Cup of the Month honor, recognizing the Lab's steadfast commitment to supplier diversity and for continuing to set the example for other organizations in Hampton Roads, according to Wendell Braxton, TRMPC executive director. The council's board of directors selected the Lab for the award during it March general membership meeting.

Hall C experiment...

Continued from page 6

data they expected. The study, he believes, will make a unique contribution to determining structure functions, with credit going to the Lab's accelerator for its unique capabilities.

"We've made measurements of spin in [certain directions] that can't be done elsewhere, at least easily," Jones says. "While it's too early to tell the results, we have seen preliminary indications that the data we took was pretty good. Our error bars are reasonable. I think we'll be able to extract useful information."

The spin-structure experiment involved a 50-member team of international researchers from the United States, Switzerland, Armenia and Israel. Results should be published within the coming year.

Fun in the sun

Summer luau brings Lab folks, food, festivities together

Plans are in full swing (forgive the pun) for Jefferson Lab's summer luau! The free event, open to all Lab employees and their families, users, contractors and students, will be from 3-6 p.m. July 25 on the lawn behind the Residence Facility.

"If you are looking for an afternoon of fun and excitement, mark your calendars," says Gary Hays, Jefferson Lab Activities Group (JAG) luau coordinator. "This is an event you won't want to miss."

The luau is geared for families, especially children, but the adults will be able to join in on the fun as well, according to the luau planning committee. "We're planning as many water-related activities as we can. We'll be ready for the hottest weather July can throw at us," they say.

"There is a high chance of getting wet, so dress appropriately," they warn. Some of the activities planned include a dunk tank, water balloon toss, slip-and-slide, watermelon-eating contest, water sprinklers, limbo, volleyball, face painting caricatures, and tug-of-war for the kids. "And bring your appetites," the committee adds. "Refreshments will include a variety of summer favorites: hot dogs, burgers, chips, side dishes and cold beverages, as well as special summer treats like sno-cones and cotton candy."

The success of these JAG-sponsored events depend upon everyone's participation," the committee points out. "With your help, everyone's time in the sun will be nothing but fun! We'll need volunteers to help with a variety of preparation tasks, grilling, food and beverage attendants, staffing activities and games, and clean up." The JAG has posted an electronic Volunteer Sign Up page accessible from the JAG web page at www.jlab.org/jag/ and click on the JLab Family Luau link.

Adding a new twist to the event, the JAG is planning a Wildest Hawaiian Shirt Contest. "We'd like to see folks dress the part for these festivities," Hays says. "We'll even have a prize for the best shirt. See you Thursday, July 25. Aloha!"

For addition information about the luau, visit the JAG web page or contact any JAG member.

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