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# THE PULSE

For the Personnel of the Laboratory for Nuclear Science

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Wednesday, September 27, 1995**

## ***Ting to Direct Space-Station Experiment***

Nobel laureate Professor Samuel C. C. Ting has been chosen to direct a major scientific experiment that will fly on the space shuttle and later on the International Space Station.

NASA and the Department of Energy (DOE) signed an agreement September 20 to conduct the experiment and have the research team led by Dr. Ting, whose research is supported by MIT's Laboratory for Nuclear Science. Dr. Ting, Professor of Physics and Thomas Dudley Cabot Professor, shared the Nobel Prize in physics in 1976 with MIT alumnus Burton Richter of Stanford for discovering the J/Psi particle, a heavy elementary particle.

The DOE-sponsored experiment will look for antimatter originating from outside our galaxy and also may lead to the scientific discovery of dark matter, the mysterious, still-undiscovered material that scientists believe makes up 90 percent or more of the universe.

"The enthusiastic cooperation from NASA has helped to make this physics research in space possible," said Secretary of Energy Hazel R. O'Leary. "This pioneering experiment holds the promise of delivering a better understanding of our universe."

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"I'm thrilled that this experiment has been selected to fly on the space station," said NASA Administrator Daniel S. Goldin. "I've always said that the Space station will be an orbiting laboratory capable of conducting world-class science, and the addition of an experiment whose science team is led by a Nobel laureate is one more step in realizing the full potential of the Space station."

Robert J. Birgeneau, dean of MIT's School of Science, said, "After a brilliant career in elementary particle physics, Sam Ting is now applying his exceptional talents to the most fundamental problems in cosmology and astrophysics. I am certain that exciting and, in all likelihood, entirely unanticipated new science will

**The Pulse may now be viewed on the World Wide Web at  
location: <http://mitlns.mit.edu/~elsye/pulse.html>**



emerge from the AMS experiment."

"We are very excited about the scientific opportunities that this project presents," said Robert P. Redwine, Director of MIT's Laboratory for Nuclear Science. "The experiment will address some of the most important questions in science today. In fact, the involvement of both particle physics and space physics recalls the beginnings of the Laboratory for Nuclear Science, when the study of cosmic rays formed a major part of the program of the Laboratory."

The experiment is a state-of-the-art particle physics detector called the Alpha Magnetic Spectrometer (AMS). AMS will use the unique environment of space to study the properties and origin of cosmic particles and nuclei including antimatter and dark matter. Discovering the presence of either material will increase scientists' understanding of the actual origin of the universe and to the discovery of antimatter stars and galaxies.

Professor Claude Canizares, Director of the Center for Space Research, said, "There have been very few fundamental physics experiments in the space program, so Professor Ting's AMS is particularly important in expanding the scope of the space sciences for NASA and, of course, for MIT. It should also be noted that the large number of countries participating in AMS will make it more international in scope than even the International Space Station Alpha, on which it will fly."

The AMS experiment is an international collaboration of some 37 universities and laboratories. AMS will be the first large magnet experiment ever placed in Earth orbit. NASA plans to fly AMS initially as a space shuttle payload on the STS-90 mission in April 1998. This flight will provide the investigating team with data on background sources and verify the detector's performance under actual space flight conditions. The detector will operate for approximately 100 hours during this mission.

The detector's second space flight will occur when it is launched on space shuttle mission STS-110 in 2001 for installation on the space station as an attached payload. Current plans call for operating the detector for three years before it returns to Earth on the shuttle.

Using the space station offers the science team the opportunity to conduct the long-duration research above the Earth's atmosphere necessary to collect sufficient data required to accomplish the science objectives.

NASA Associate Administrator Harry Holloway and DOE's Director of Energy Research Martha Krebs signed the interagency agreement in a ceremony in Washington, DC, on September 20.

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### **1995 United Way Campaign Update**



The United Way Campaign has been extended to Friday, January 19. So far, LNS has raised \$3,266.00. The campaign as a whole has raised \$206,941.00; that's 64% of the overall goal of \$322,000.00. Many thanks to all of you for your generous contributions.

There will be an "End-of-Campaign" raffle sometime in January or early February for all those who make a pledge to our United Way Campaign. Prizes include the following: (1) two \$300 travel vouchers on American Airlines, courtesy of American Express; (2) deluxe accommodations for two on a Friday night at the Boston Marriott/Cambridge; (3) an overnight stay for two at the Inn at Harvard; (4) a gift certificate to the Boston Sail Loft on Memorial Drive; (5) dinner for two at Davio's Italian Restaurant at the Royal Sonesta Hotel in Cambridge; (6) a limited edition poster of the Boston Celtics; (7) two Boston Entertainment Books for 1996; (8) two tickets to the Huntington Theatre's performance of Gilbert & Sullivan's "Iolanthe"; (9) two tickets to the Boston Ballet's "Tales of the Arabian Nights, The story of Abdallah; and more. Thank you for your support.

Heidi Demers



## Bottom Line

by: Elsy Luc

### Vassar Street Has a New Crosswalk

Well I am happy to report that the crosswalk on Vassar St. is now in place. Although we have a crosswalk, drivers are still not used to the idea of stopping for pedestrians. A crosswalk does not necessarily mean safe crossing. Please be very cautious when crossing Vassar St. I hope the city of Cambridge will place a pedestrian barrel on the crosswalk so that drivers will notice it.

**Bottom Line** is an opportunity for you to share your issues, questions, points of view and opinions with the LNS community. *Pulse reserves the right to edit articles and to refuse articles deemed inappropriate.*

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### List of LNS Publications

#### Medium Energy Group

"A Cryogenic Storage Cell for Polarized Internal Gas Targets," L.H. Kramer, J.F. Kelsey, and R.G. Milner, LNS-95-155

"Pion Double Charge Exchange and Inelastic Scattering on  $^3\text{He}$ ," J.L. Matthews, et al, LNS-95-156

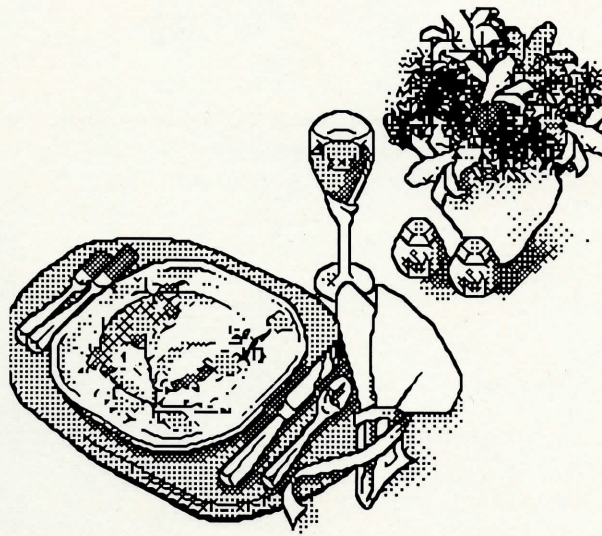
"Pion Double Charge Exchange in p-Shell Nuclei," J.L. Matthews, et al, LNS-95-158

### Holiday Schedule for 1995-96

Columbus Day - Monday, October 9  
Veterans' Day - Friday, November 10  
Thanksgiving Day - Thursday, November 23  
Christmas Day - Monday, December 25  
New Year's Day - Monday, January 1, 1996  
Martin Luther King Jr. Day - Monday, January 15  
Presidents' Day - Monday, February 19  
Patriots' Day - Monday, April 15  
Memorial Day - Monday, May 27  
Independence Day - Thursday & Friday,  
July 4 & 5

## Found

An earring was found at the LNS holiday reception. Call Elsy Luc at X3-2395 to claim it.



### IAP - International Lunch

Cheryl Cagnina

Friday, February 2, 1996  
International Lunch  
Noon, 26-414

An IAP Favorite. Bring an international entree, side dish or dessert -- enough for 20 people. Test the delicacies from around the world. Please submit your recipe to Cheryl Cagnina, x3-2394. Pre-registration required.

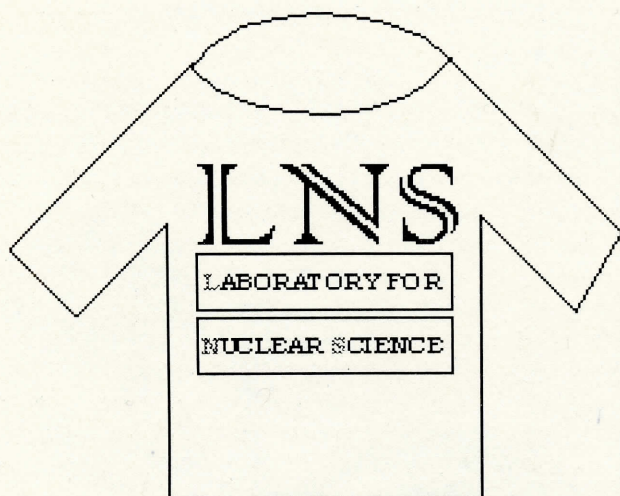
### Holiday Note

There are still 12 holidays a year observed at MIT even though neither Thanksgiving nor Christmas gets an extra day in 1995.

The 12th paid holiday was added in 1992. The day on which it is observed varies from year to year. In years when Independence Day or Christmas Day fall on a Tuesday or Thursday, the 12th holiday is used to provide for a four-day weekend. In years when that doesn't happen, the 12th holiday is observed on the Friday following Thanksgiving.

In 1995, the extra holiday came on Monday July 3. In 1996, it will be observed on Friday, July 5.





### **T-Shirt**

Congratulations to Bob Averill, winner of the T-shirt contest. Bob's design will be featured on the back of the LNS T-shirt. The LNS T-shirts and sweatshirts will be on sale soon. More information will be available in the next pulse.

### **PARENTS FORUM - Eve Sullivan**

*PARENTS FORUM*, on Thursday, January 18th at CCTV - Cambridge Community Television - from 7 to 9 pm, there will be a meeting of the Deaf Studies Advisory Committee related to introducing ASL (American Sign Language) into the schools. Then, on Saturday, January 27th, from 11 to 1:00, at the Cambridge Public Library, Main Branch Children's Room, PARENTS FORUM will hold its fourth annual Book and Toy Exchange.

The two programs described below are related to the work I am doing with parent education through PARENTS FORUM, but they are focused on work issues, in the first case, and substance abuse and other addictions in the case of the other two.

### **IAP/Addictions Awareness PROGRAMS**

#### *Workaholism at MIT?*

An Informal Conversation Sponsored by MIT Libraries.

Tuesday, January 9, 1996, Noon-1:00, Room 6-103

A brown-bag lunch to discuss the question:

How can we reduce the negative effects of workaholism at MIT without compromising the quality of our work?

#### *Addictions Awareness*

Two Informal Conversations on Recovery Sponsored by Residence and Campus Activities ASL-interpreted Wednesdays, January 24 and 31, 1996, 4:30-6:00 pm, Room 6-120.

If you have a friend, or used to have a friend, with substance abuse or eating disorder problems -- or a family member with the same -- this course is especially for you! All are welcome.

A chance to talk with people who have 'been there, done that.' Former sufferers of addictive diseases (alcoholism, eating disorders, gambling) or obsessive relationships will describe their experiences and answer questions.

Similar sessions will be held at Wellesley Wintersession on January 10 and January 17, 6:30-8:00 pm, in Davis Lounge, Schneider Center, Wellesley College.



## *Beamin' Demons Division III Champs*



**From left to right:**

**Front row:** Townsend Zwart, Emie Bisson, Joe McCormack, Rich Campbell, Steve Ciacera

**Back row:** Brad Antunes, Tony Carter, Harry Eisner Rob Campbell, Joe Dzengeleski, Bob Grenham

The Bates Beamin' Demons defeated the Sloan School Raiders to win the MIT Summer League Division III Championship. The Demons started the season 0 and 2, but won 11 of their next 12 games, including the last 9 in a row. The Demons finished the regular season with a 7-3 record which placed them 2nd in their conference.

The first playoff game was an 8-0 shutout against the Physics Department Rigid Rotors, the next was a hard fought victory against the MIT Athletic Department Sluggo's. The score was 16-10. But the 3rd victory was the sweetest because it was against the LNS team, Lab Nonsense. The Demons won 10-4.

The championship game was played at MIT's NCAA softball field. The Demons fell behind the Raiders, 7-3 after 4 innings and 8-6 after 6 innings. But the team showed poise with clutch hitting, scoring 4 runs in the top of the 7th inning. The Raiders were unable to score in the 7th and final inning. The Demons came back to win the game by a score of 10-8 and a final record of 11-3 and the Division III Championship.

**The Bates Beamin' Demons roster:**

Brad (Ace) Antunes, Pitcher  
Emie (Biffster) Bisson, Right center field (Coach)  
Rich (Kato) Campbell, Shortstop (Assistant Coach and Waterboy)  
Rob (Kato prime) Campbell, Left field  
Tony (TC) Carter, First base  
Steve (Chico) Ciacera, Third base  
Joe (Loosely) Dzengeleski, Right field  
Harry (Dude) Eisner, Catcher (Manager)  
Bob (Bobby) Grenham, Left center field  
Joe (Mac) McCormack, Second base (Coach)  
Townsend (T-man) Zwart, Utility

**Also contributing part-time:**

Dave (Scoogy) Scoggins  
Alonzo (Zoe) Hawkins  
Zackary (Z-man) Eisner

Harry Eisner



## ***A View of Pugwash from On the Fringes of History by Bernard T. Feld***

*Recently British physicist Joseph Rotblat was awarded the 1995 Nobel Peace Prize. Rotblat shares the honor with Pugwash Conferences on Science and World Affairs. Pugwash was founded 38 years ago. Rotblat was recruited for the Manhattan Project in Los Alamos, New Mexico in 1939. But Rotblat abandoned the bomb effort in late 1944 and then found himself being accused of spying for the Soviets. After quitting Los Alamos Rotblat conducted research in nuclear medicine. The article that appears below was developed from Bernard T. Feld's unpublished autobiography **On the Fringes of History**.*

"Pugwash" is short for the "Pugwash Conferences on Science and World Affairs." The first of these meetings was held in 1957 in Pugwash, a small village in Nova Scotia, Canada. The Russell-Einstein Manifesto of 1955, which called for such meetings between scientists from East and West, attracted attention in a number of different quarters. The first offer to host such a meeting came from Prime Minister Nehru of India, but while the details were being worked out, Nehru died unexpectedly. Russell was at a loss as to where to turn next, when an offer came from the Greek industrialist, Aristotle Onassis. Onassis attached the condition that the meeting had to be held at the Casino at Monte Carlo, one of his properties. Russell was about to accept Onassis' offer, when a letter arrived from Cyrus Eaton proposing the Pugwash site. Cyrus Eaton, a Cleveland railroad magnate, was born in Pugwash. He offered his home and he brought in a number of Pullman railway cars to accommodate scientists and their staff.

The first Pugwash Conference was attended by just twenty-one scientists from ten countries. They came in response to an appeal from Bertrand Russell, Albert Einstein, and nine other very distinguished scientists. Their agenda was for scientists to assemble in conference to appraise the perils that have arisen as a result of the development of weapons of mass destruction, and to discuss the following resolution: "In view of the fact that in any future world war nuclear weapons will certainly be employed, and that such weapons threaten the continued existence of mankind, we urge the governments of the world to realize, and to acknowledge publicly, that their purpose cannot be furthered by a world war, and we urge them consequently to find peaceful means for the settlement of all matters of dispute between them. Here, then, is the problem we present to you, stark and dreadful and inescapable: Shall we put an end to the human race; or shall mankind renounce war...? There lies before us, if we choose, continual progress in happiness, knowledge, and wisdom. Shall we, instead, choose death, because we cannot forget our quarrels? We appeal, as human beings, to human beings: Remember your humanity, and forget the rest. If you can do so, the way lies open to a new Paradise; if you cannot, there lies before you the risk of universal death." These words remain as poignant and compelling today as when they were written, some thirty years ago! The manifesto has since been endorsed by 111 Nobel Laureates in the natural sciences.

The signers of the manifesto were: Max Born, Germany, Percy W. Bridgman and Albert Einstein, USA, Leopold Infeld, Poland, Frederic Joliot-Curie, France,

Herman J. Muller and Linus Pauling, USA, Cecil F. Powell, Joseph Rotblat and Bertrand Russell, UK, and Hideki Yukawa, Japan. Einstein's signing of the Russell-Einstein Manifesto represented one of the very last acts of his life. Russell had been corresponding with Einstein, but without any definite conclusion. Russell was on a flight returning to London when he heard about the death of Einstein. He was devastated and convinced that the Manifesto had lost its main public symbol. However, when Russell arrived at his London office, he found Einstein's positive reply which had been sent the day before his death.

The early Pugwash Conferences, being relatively small, were rather informal affairs, with quite flexible agendas and wide-ranging discussions. On some issues our Soviet colleagues were occasionally somewhat reticent, especially when the subjects concerned ongoing negotiations. The relaxed atmosphere and the privacy of the meetings helped to overcome such reticence.

At the 1961 conference in Stowe, Vermont, the most immediate and pressing arms control issue was the maintenance of an informal testing moratorium, which had been going on for a number of years. President Eisenhower had announced that the US government no longer felt bound by the moratorium and was planning to resume testing. The US group at the Stowe meeting was proposing a resolution, urging both sides to maintain the moratorium, irrespective of the actions of the other. Our Soviet colleagues felt that this was rather one-sided, since their government had taken no steps to end the moratorium. Although we agreed, the US group felt that the proposed reso-



lution from the Pugwash Conference might cause our government to pause and reconsider its testing plans. After some discussion, the chairman finally called for an expression of opinion on the resolution by the conferees. When he called for a vote, almost all of those present said, "aye," but the Russians still hesitated. Leo Szilard, who always liked to sit among the Russians and who never, himself, voted on any issue, suddenly piped up with "da-da," which completely released all tensions and permitted the amused Russians to indicate their assent. This was typically Leo.

The first Secretary General of the Pugwash Conferences was Professor Joseph Rotblat, of the Physics Department of St. Bartholomew's Medical College in London. He held the post for some sixteen years. I succeeded him, and held the post for four years, two of which were spent in London while I was on sabbatical from MIT (1974-75). Dr. Kaplan has been the Secretary General since 1978. The successor to Dr. Kaplan will be Professor Francesco Calogero, a longtime Pugwashite from the University of Rome.

The titular head of Pugwash is its President, an essentially honorary position. The first holder of that position was Bertrand Russell, who retired after a few years because of a shift in his interests. He was followed by Sir John Cockroft and Lord Florey, both of whom died soon after their appointments. At this point, the decision was made to choose the President on a yearly basis from among the eminent scientists of the country in which that year's annual conference was being held. Thus, the Presidency went from Francis Perrin (1968) to Mikhail Millionshchikov (1969) to Eugene Rabinowitch (1970). In 1970, it was decided that the President would have a five year, renewable term, Hannes Alfven held the position from 1970 to 1975, followed by Dorothy Hodgkin 1975-1989. She resigned at the end of 1988 and was succeeded by Joseph Rotblat.

The first Pugwash Conference that I attended was the third. It was held in Kitzbuhel and Vienna, Austria in September 1958. The conference was moving toward the pattern of what was to follow -- conferences held all over the world. In most of the communist countries and some of the non-communist ones, the national Pugwash group is embedded in the National Academy of Sciences. In the US, the Pugwash Committee is a subcommittee of the Committee on International Security Studies of the American Academy of Arts and Sciences -- a Cambridge-based, private but venerable and highly respected, learned Academy.

The American Academy played a seminal role in the development of the field of arms control studies and in the organization of Pugwash and other international groups in this area. In the summer of 1954, predating the Russell-Einstein Manifesto by about a year, and Pugwash by three) a number of us in the Academy organized a summer study on arms control, which resulted in a volume of collected papers, "Arms Control, Disarmament, and National Security," edited by D.G. Brennan (also *Daedalus*, Fall Issue, 1960).

Over the last twenty-five years, there have been a number of occasions when people have expressed the opinion that Pugwash

had outlived its usefulness. When the partial test Ban Treaty was achieved, what was left to do? After the ABM Treaty, was not the arms control regime firmly solidified? Did not SALT-I and II spell the end of the Soviet-American arms confrontation? Did not détente mean that our governmental leaders could communicate without outside intervention?

These questions answer themselves. Today, as on many occasions in the past, if Pugwash did not exist, it would have to be invented. There is ample historical evidence as to the need for such an independent, respected, international group of individuals of recognized merit, with reasonable access to official quarters in their respective countries.

In this regard, one can point to a number of occasions where Pugwash, in one manner or another, has provided the vital communications link that helped defuse an imminent crisis. For example the termination of the Cuban Missile Crisis (i.e. the removal of the Soviet missiles from Cuba followed by the removal of US missiles from the Soviet-Turkish border); the technical discussions on verification issues that permitted the partial nuclear test-ban agreement (and only just failed to achieve total test-ban because of the stubborn insistence of the US Joint Chiefs on seven mandatory annual on-site inspections when the Russians were only offering three); the first serious contacts with the Egyptians and Israelis, laying the groundwork for their peace treaty; bringing together of Nigerian and Biafran scientists to avert a bloody civil war; arrangement of a mission to Hanoi by a pair of French scientists, carrying feelers on the possibility of the "San Antonio formula" for US disengagement in Vietnam (in exchange for acceptance of a firm line of demarcation between the forces); preliminary discussion on the resolution of the achievement of both the SALT-I and SALT-II agreements.

Since it is inevitable that, at least for the foreseeable future, equally serious differences will arise between the two "super



powers," it is equally unlikely that the need for Pugwash will go away. Pugwash has had a role, perhaps small but nonetheless significant, in keeping the peace. If, somehow, we can collectively manage to extend this state for another forty years, moving from confrontation through competition to cooperation, this will be a most important accomplishment, for which future generations will owe us a real debt.

In a communal enterprise, such as Pugwash, it is very difficult to ascribe -- in any quantitative fashion -- credit to various individuals for the achievements of the enterprise. I'd like to think that my own contributions have been non-negligible. As I look back, it seems to me that these contributions -- such as they were -- were more on the organizational level than the intellectual. I've certainly assumed, over the years, many of the responsibilities -- both on the US level and in the international aspects -- for such mundane tasks as the identification and recruitment of appropriate scientists for participation in Conferences and Symposia, and for the fund raising necessary to permit these activities to go forward. At the same time, I've tried, and continue to try, to contribute, via papers and discussions, to the intellectual storehouse from which Pugwash derives its strength.



### **Birth Announcements**

Nadine Matthews - Thomas John, born on June 24, 1995, 7lbs. 4oz.

Frank Hills - Stephanie Elizabeth born on September 26, 1995, 7lbs. 1oz.

Karen Dow - Emily Alice, born on October 21, 1995, 7lbs. 4oz.

Scott Ottaway - Sean Michael born on November 2, 1995, 8lbs. 5oz.



### ***Tieger Rides to Raise Funds for AIDS Research***

Dan Tieger, a research scientist at Bates, recently completed the 270-mile AIDS bicycle ride from Boston to New York City to raise money for research and treatment of the disease. Dan joined 3265 riders who raised \$6.4 million. Dan raised \$1400.

"My uncle died five years ago of AIDS and I thought that as a serious cyclist, this was something I could do in his memory. If my uncle were still alive, I'm sure that he would have been pleased.

About 6 a.m. Friday morning, Steve Dolfini drove me to the World Trade Center in Boston where my bike was stored and where the ride began. The bikes were stored in sections and by the time it was my turn to begin, two thirds of the bikers had already left. It was a beautiful day and as we rode around the Common and down Commonwealth Ave people lined the streets to wish us well." Ninety-nine miles the first day to Storrs, Connecticut and it was my intention to be at the front of the pack. The ride was sponsored by organizations in both cities, including the Fenway Community Health Center, the World Trade Center, the Community Health Project and the Lesbian and Gay Community Services Center in New York. Tanqueray Gin was one of the corporate sponsors. It was the first East Coast AIDS bicycling effort and the largest effort so far.

"When we got to Dover, we passed an elementary school and everyone cheered us on. In Mendon about 30 kids were on the curb with their hands out. I think I managed to high-five all of them as I rode by. When I got to the Massachusetts and Connecticut border, I thought, one state down and two states to go. It was really hilly in Connecticut and at the 90-mile mark it was all up hill for the next nine miles. When I arrived at the camp area twenty bikes were in front of me. I made it in about



six hours. It was really interesting to watch a small city of blue tents rise up out of a green field, as nearly 2000 tents were put up. The riders just kept coming in to this city of tents and even 12 hours after the start they still kept coming. They didn't tell us how many people didn't make it. We were excited about the ride and there was a lot of spirit around the camp ground.

The second day I literally scraped ice off my bicycle saddle because of a freeze that occurred during the night and I was ready to ride from Storrs to Bridgeport, 105 miles, through beautiful, but hilly parts of Connecticut. We crossed the Connecticut River at East Haddam and hit the coast around Guilford where the road finally started to smooth out. I made it to Bridgeport in seven hours including lunch and a flat. We had to set up our own tents, but the organizers set up a tent where we could receive free massages.

The last day was a driving rain which lasted the entire 67 miles to New York City. At first light I wanted to be on the road so that I could be one of the first to reach Manhattan, but the ride organizers would not let us leave until around 8:15 because of the bad weather. The organizers set up a rest stop in New Rochelle, but there was no way I was going to stop for long just twenty miles from the finish. I stopped just long enough to pick up my victory T-shirt.

Four of us were riding together when we started to cross a bridge entering the Bronx. One guy hit it going about 20 miles an hour and started to skid. I watched him and tried to keep upright and started to skid too but because I was going at a good speed I was able to get through. The other two guys stopped and walked across the bridge. We arrived soaking wet, with no fanfare, at around 12:30, sooner than the organizers had expected. The closing ceremonies began at 5 and by that time the sky had cleared. Two hundred riders were chosen to come forward at the ceremonies. We raised our bikes."

Tieger came in 21st the first day, 17th the second and was one of three to come in second on the final day. Tieger has clocked more than 3900 miles on his bike this year. "Next year," said Tieger, "There will be five AIDS rides. I may do the Boston to New York City again, I'll have to see."

## **Welcome**

Dr. Ian Balitsky - Joined the CTP as a Research Scientist on September 1, 1995.

Anneke M. Bates - Hired 10/6/95 as Sr. Secretary to the EMI group.

William R. Gibbs - Driver Utility with General Service Group transferred in to LNS 10/23/95.

Ronald St. Jean - Project Machinist transferred in to LNS Machine Shop from Plasma Fusion Lab. 11/6/95.

## **Promotions**

Richard Belanger - promoted to Senior Stock Clerk on 7/3/95. Richard works at the LNS Machine Shop.

Richard Capodilupo - promoted to Senior Technician - Mechanical at Bates.

Thomas Ferrari - promoted to Project Technician - Electronic.

Robert Fisk - promoted to Project Technician with the Electronics group at Bates.

Larry Longcoy - promoted to Project Technician EM.

## **Departures**

Mary Ellen Butts - Sr. Secretary with the CDF group terminated 8/11/95.

Ronald Filosa- LNS Mechanical Services group terminated 8/15/95.

Mark Humprey - Proj. Tech. at Bates terminated 11/24/95.

John McGlashing - Driver Utility with General Services group transferred to Biology Dept. 12/11/95.

Stephen Pate - Research Scientist with the Medium Energy Group accepted a faculty position with New Mexico State University at Las Cruces. Steve left on 8/31/95.

Robert J. Patterson - Project Machinist transferred to Lincoln Laboratory 12/3/95. Bob was with LNS for 19 years.

Evan Reidell - Sr. Secretary-Tech. with CTP terminated 12/15/95.



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If you have any ideas and/or suggestions for new features in T<sub>H</sub>E P<sub>U</sub>L<sub>S</sub>E please let us know. PULSE 26-540.