

Math-Science Academy for Illinois Near Approval

by Marge Bardeen

Approval for an Illinois Math-Science Academy is part of the Educational Reform Plan awaiting Governor James Thompson's signature. The Illinois House approved the entire plan earlier in June and sent it to the Senate; the Senate gave the package its final approval at the close of the 1985 legislative session.

The Math-Science Academy was the brain-child of Fermilab Director Leon Lederman. A feasibility study conducted in October of 1983 was sponsored by the Friends of Fermilab Association and the Corridor Partnership for Excellence in Education. Thirty-nine Illinois high school teachers and college and university professors developed a proposal for Governor Thompson. Thompson in turn proposed the Academy in an address to the General Assembly early in 1984, and the Math-Science Academy was then appended to the Educational Reform bill through the efforts of Sen. Forrest Ethridge (R.-Aurora). The concept is also tied to the economic development plans of Illinois.

Included in the Educational Reform Plan is \$500,000 to begin planning for the establishment of the high school for gifted 10th through 12th graders. The residential Math-Science Academy will be located in the Fox Valley area and will serve students from throughout the state.

Once the Governor has signed the legislation, a mandated Board of Trustees will be appointed to develop implementation plans. Representatives of the scientific community, secondary and higher education, and the public-at-large will be involved in administering the Academy.

Students at the Academy will have available to them rigorous coursework in science and mathematics as well as in English, social sciences, foreign languages, humanities, and the arts. There will be opportunities for independent study and research with advisors from Illinois industries and research laboratories.

Illinois Science Academy



Cover of the original proposal for the Illinois Math-Science Academy.

Every student will take part in community-service activities outside the classroom. In addition, a rich co-curricular program will be provided. It is expected that the small Academy enrollment of some 800 students will have a negligible effect on the balance of Illinois high schools, while assuring a salutary teacher-student ratio.

The school will be a "flagship" for math and science education where new curriculum materials can be developed and where teachers from other Illinois schools will receive additional training to update their understanding of basic material.

Funding for the Math-Science Academy is to be a joint venture between the State of Illinois and private industry, particularly companies in the so-called High Tech Corridor along the East-West Tollway. Current operating cost estimates for the school are \$6,000,000 per year.

The Academy will also be of benefit to the State of Illinois. It will have close ties to Illinois colleges and universities and will therefore work to keep its graduates in Illinois at least through their university education. This in turn

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will make it more likely that students will continue to live in Illinois as they pursue their professional careers.

The original proposal to Governor Thompson perhaps most clearly defined the need for the Math-Science Academy when it stated "...the Illinois Science Academy will set standards that other states and schools will be forced to emulate. Proceeding by example is perhaps the best way to face the grave national issue of science education. The resultant enhancement of scientific leadership will help move this state to the forefront of technological leadership, and help the nation endure and prosper in the new technological age whose full dimensions are yet to be clearly discerned."



Teachers Here to Work, Learn

Ten high school science and math teachers are assisting Fermilab scientists in various aspects of on-going research projects this summer. As participants in the Illinois Research Corridor Program for Summer Jobs for High School Teachers, they were selected on the basis of teaching excellence as determined from their application forms and letters of recommendation. Three of the teachers are helping to set up experiments. They are George Eblin (E-687), Paul Madsen (E-706) and Saulius Ploplys (E-711). Also working in the Experimental Areas is Randall Zamin, who is documenting software for the Beams Group. Joseph Cieply and Susan Sisselman are working in the Computing Department modifying several programs to make them more user-friendly. In the Safety Section, Ray Dagenais is calibrating thermoluminescent dosimeters to be used in radiation damage studies, and Mark Pennington is making an environmental assessment of the site to assure compliance with the National Environmental Policy Act. Christopher Kawa is associated with the Material Development Group and is studying chemical reactions in thin films of epoxy adhesives by measuring the change of resistance with time. Finally, Henry Robarts is determining the small mammal population on site in connection with the Prairie Restoration Project.

The other laboratories participating in this summer's program are Amoco Research Center, Argonne National Laboratory, AT&T

Bell Labs, AT&T Information Systems, AT&T Network Systems, and Nalco Chemical Company. Seventeen additional teachers have been given research-oriented jobs at these laboratories. All of the laboratories affiliated with the program work closely together in selecting the teachers and making job assignments. A teacher who has worked at one lab during a particular summer may be reassigned to the same lab the following summer, or he or she may be assigned to another participating laboratory. This gives the laboratories more flexibility in finding appropriate assignments while giving the teachers an opportunity to work in differing research environments. It is hoped that the information and skills acquired by the teachers



Fermilab participants in the Illinois Research Corridor Summer Jobs Program for High School Teachers. From left are Joseph Cieply (Lake Park H.S.), Henry Robarts (Larkin H.S.), Christopher Kawa (Crystal Lake Central H.S.), George Eblin (Downers Grove North H.S.), Saulius Ploplys (Buffalo Grove H.S.), Susan Sisselman (Aurora West H.S.), Mark Pennington (Waubonsie Valley H.S.), and Ray Dagenais (Waubonsie Valley H.S.). Not pictured are Paul Madsen (Hinsdale South H.S.) and Randall Zamin (Downers Grove South H.S.)

through this program will help them to maintain and improve the quality of math and science teaching in our local schools.

—Arlene Lennox

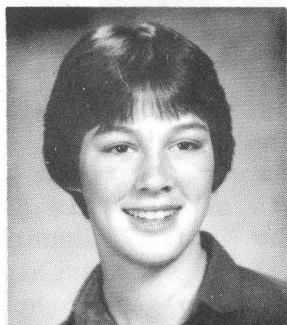
Blood Drive

The Aurora Blood Bank will hold a Blood Drive on Friday, August 1, 1985 from 9 a.m. to 2 p.m. in the 1 West Conference Room. For more information, contact the Medical Office on ext. 3232.

Ten 1985 URA Scholarship Winners Announced

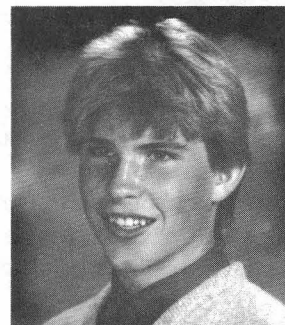
From a pool of 38 applicants, the Universities Research Association, Inc. has chosen 10 sons and daughters of Fermilab employees to be the recipients of its annual scholarships for the 1985-86 academic year. Each awardee was selected on the basis of their ACT scores. Congratulations to this year's winners.

Deborah Ann Cook



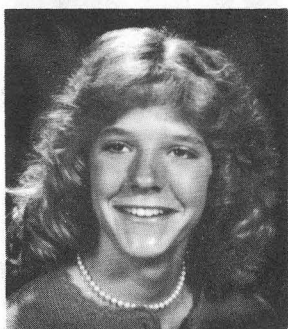
...plans to pursue a doctorate in pharmacy at the St. Louis College of Pharmacy. She plans to enter the nuclear medicine research field. A graduate of Plainfield High School and an Illinois State Scholar, she has been awarded the St. Louis College of Pharmacy's Presidential Scholarship, St. Louis College of Pharmacy's Faculty Memorial Scholarship, and the Illinois Science Teacher Association Science Award. Her father, Arthur D. Cook, is a technical specialist in the Advanced Computer Group.

Daniel De Guyer



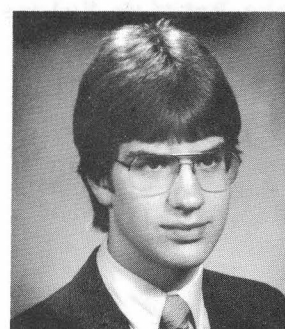
...is a graduate of Oswego High School, and the son of Gene Guyer, Stores/Property Management Supervisor. Daniel was a finalist in the National Merit Scholarship Competition and was offered a University of Illinois Veteran's Association Scholarship. He plans to attend the University of Illinois at Urbana in the fall to study chemical engineering in the Chemistry Department of the School of Liberal Arts and Sciences. Daniel's other areas of interest are in the fields of biochemistry and biology.

Julie Anne Turkot



...plans to study pre-veterinary medicine at the University of Illinois at Urbana this fall. She is an Illinois State Scholar, and a recipient of the Presidential Academic Fitness Award and a National Merit Scholarship Letter of Commendation. She graduated in the top 5% of her senior class at Wheaton Central High School, and is the daughter of Frank Turkot, who is a physicist in the Accelerator Division.

Scott A. Streetman



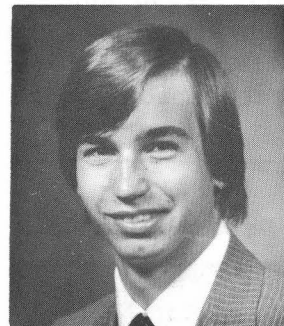
...will study engineering at the University of Michigan in Ann Arbor this fall. A graduate of Glenbard West High School, he was a member of the National Honor Society and an Illinois State Scholar. He is also the recipient of the Presidential Academic Fitness Award, and was awarded for Excellence in French. He is the son of Marcia Streetman, a programmer in the Physics Department. →

Deborah Lynn Kuchnir



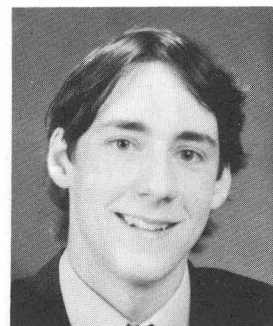
...is the daughter of Moyses Kuchnir, an applied scientist with Tevatron I. A graduate of York High School and chapter president of the National Honor Society and French Honorary Society, she is also a member of Mu Alpha Theta and a National Merit Commended Student. Deborah has received the Rensselaer Medal, the Bausch & Lomb Medal, the Citizenship Award, the Lindsay Claire Wallace Award for Excellence in Foreign Language, the Clarence D. East Award for Scholar-Athlete, and the James Lyman Bingham Award for Scholar-Athlete. She attended the Alliance Francaise in Paris, France for six weeks on a scholarship. She was awarded the Society of Women in Engineering's Highest Honor, was an IHSA State Finalist in Mathematics, and Class of 1985 Valedictorian. She plans to attend the Massachusetts Institute of Technology.

Robert Mark Simon



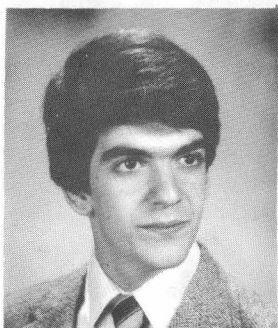
...is a graduate of Waubonsie Valley High School, and in addition to being cited in **Who's Who Among American High School Students**, he is an Illinois State Scholar, a member of the National Honor Society, and a recipient of a scholarship from Gary-Wheaton Bank. He plans to attend the University of Illinois at Urbana to study computer science. He is the son of George Simon, crew chief of the 15-ft. Bubble Chamber, and Elsie Simon, a housekeeper in the Housing Department.

Mark Douglas Russell



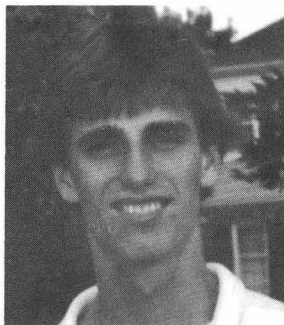
...is a recipient of the Packard Instrument Co. Scholarship, the Peter Cooper Memorial Award, the Haynes J. Wheeler Award, the Presidential Academic Fitness Award, the Mathematics Association of America Award, and the Illinois Science Teachers' Association Award. He is an Illinois State Scholar and a National Merit finalist. A graduate of Geneva Community High School, Mark is the son of Al Russell, a physicist in the Accelerator Division. He plans to attend the University of Illinois at Urbana to study physics or geo-physics.

John Patrick Valdes



...graduated from Benet Academy and is the son of Eugenio Valdes, who is an electrical engineer at Fermilab. In addition to receiving a National Merit Commendation, he is a member of the National Honor Society, a recipient of the Presidential Academic Fitness Award, and an Illinois State Scholar. He plans to attend the University of Chicago to obtain a Ph.D. in astronomy.

John Thomas Pawlak



...plans to study mechanical engineering at the University of Illinois at Urbana this fall. A graduate of Glenbard East High School, he is an Illinois State Scholar. His father, Thomas Pawlak, is a member of Construction Engineering Services.

Deborah Joan Appel
(Photo not available)

...will attend Cornell University to pursue studies in Science or Mathematics. She attended Glenbard West High School, and Lycee Carnot in Paris, France. Deborah is an Illinois State Scholar and National Merit semifinalist. Her father, Jeffrey A. Appel, is a physicist and Associate Head of the Computing Department on temporary assignment at the Center for Nuclear Studies, Saclay, France.



Next Fermilab Lecture Focuses on African Famine Problem



Dr. John W. Mellor

We are all acutely aware of the food shortage that continues to plague various regions in Africa. What many of us do not understand is, what has caused the drastic change since 1970 when Africa was a net food exporter? What are the future prospects for alleviating the widespread famine? John W. Mellor, Director of the International Food Policy Research Institute and former Chief Economist of the U.S. Agency for International Development, will address these questions in the next Fermilab Lecture Series presentation. Mellor's talk, "Africa: Famine, Food and Development" will be given on Friday, August 2, 1985, at 8 p.m. in Ramsey Auditorium.

For many years a Professor of Agricultural Economics and Asian Studies at Cornell University and a consultant for such agencies as the United Nations Food and Agriculture Organization and the Rockefeller Foundation, John Mellor has a keen understanding of the technological challenge the people of Africa are facing. He is author of the award-winning book **The Economics of Agricultural Development**, as well as **The New Economics of Growth - a Strategy for India and the Developing World**. Mellor received B.Sc., M.Sc., and Ph.D degrees from Cornell University and a Diploma in Agricultural Economics from Oxford University as a Fulbright Scholar. He is a Fellow of the American Academy of Arts and Sciences.

In his lecture at Fermilab, Mellor will look at the reasons why overall food production in Africa has not kept pace with population growth and why the "green revolution" has not worked in Africa as it did in Asia. He will suggest what the nations of Africa can do to help themselves as well as what role the rest of the world must fill to ease this crisis.

Admission to Mellor's lecture is \$2, \$1 for senior citizens, and tickets are available at the Information Desk in the Atrium of Wilson Hall, ext. 3353. Phone reservations are held for five days. Those reservations not paid for in five working days are released for sale.

—Jane Green

Fermilab to Seek NERP Status

After a few months of on and off discussions among various offices within the Department of Energy, Fermilab has been given the go-ahead to formally propose becoming a National Environmental Research Park (NERP). What may seem like excessive time was needed to assure all concerned that ecological research could be carried on in harmony with Fermilab's mission in high-energy physics.

Under the sponsorship of DOE, a NERP is an outdoor laboratory where research may be conducted on major ecosystems. It is part of the federal government's plan to restore, protect, and enhance environmental quality. Basically, it makes public land available to qualifying organizations or institutions for various types of ecological research.

If approved, Fermilab will become the sixth NERP in a nationwide network that includes Pacific Northwest Laboratory, Idaho National Engineering Laboratory, Los Alamos Scientific Laboratory, Savannah River Plant, and Oak Ridge National Laboratory. Adding Fermilab to the list will fill a void in the central part of the country and provide a site representative of the tall-grass prairie that once dominated this region.

The proposal to DOE points out that Fermilab has a rich variety of ecological systems. They range from active agro-ecosystems and fallow fields to natural woodlands, meadows, and wetlands--all in close proximity to and existing with high-technology facilities. The physical size of 6,800 acres is large enough to contain most normal types and populations of plants and animals typical of this area.

Administration of the NERP would be developed using the framework of Fermilab's Prairie Restoration Project. It would mainly be an extension and formalization of this already rather broad program. The long-term goal is to establish and conduct research within a total ecosystem including not only native plant species but animal, bird, and insect life as well. Now in its eleventh year, the restored prairie covers over 400 acres. It is believed to be one of the largest prairie restoration sites in the country.

--John Paulk

"Bedazzled" Next for F.I.F.S.

On Friday, July 26, at 8 p.m. the Fermilab International Film Society will present **Bedazzled**. A woebegone short-order cook makes a pact with the devil, becoming in turn a fly, a rock star, an intellectual, and a nun. An original story by Peter Cook and Dudley Moore, the film features Raquel Welch as Lust. Tickets are \$2 for adults, 50¢ for children, and are available at the door. The film will be shown in Ramsey Auditorium.

Congratulations To ...



Richman's Inevitable's of Parenthood:

- (1) Enough is never enough.
- (2) The sun always rises in the baby's bedroom window.
- (3) Birthday parties always end in tears.
- (4) Whenever you decide to take the kids home, it is always five minutes earlier that they break out in fights, tears, and hysteria.

As a rule of thumb, the height of a child on its second birthday will be about half its adult height, though girls will be a little shorter when grown.

Lowrey's Law of [Diapering] Expertise:

Just when you get really good at something, you don't need to do it anymore.

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