

The Village Courier



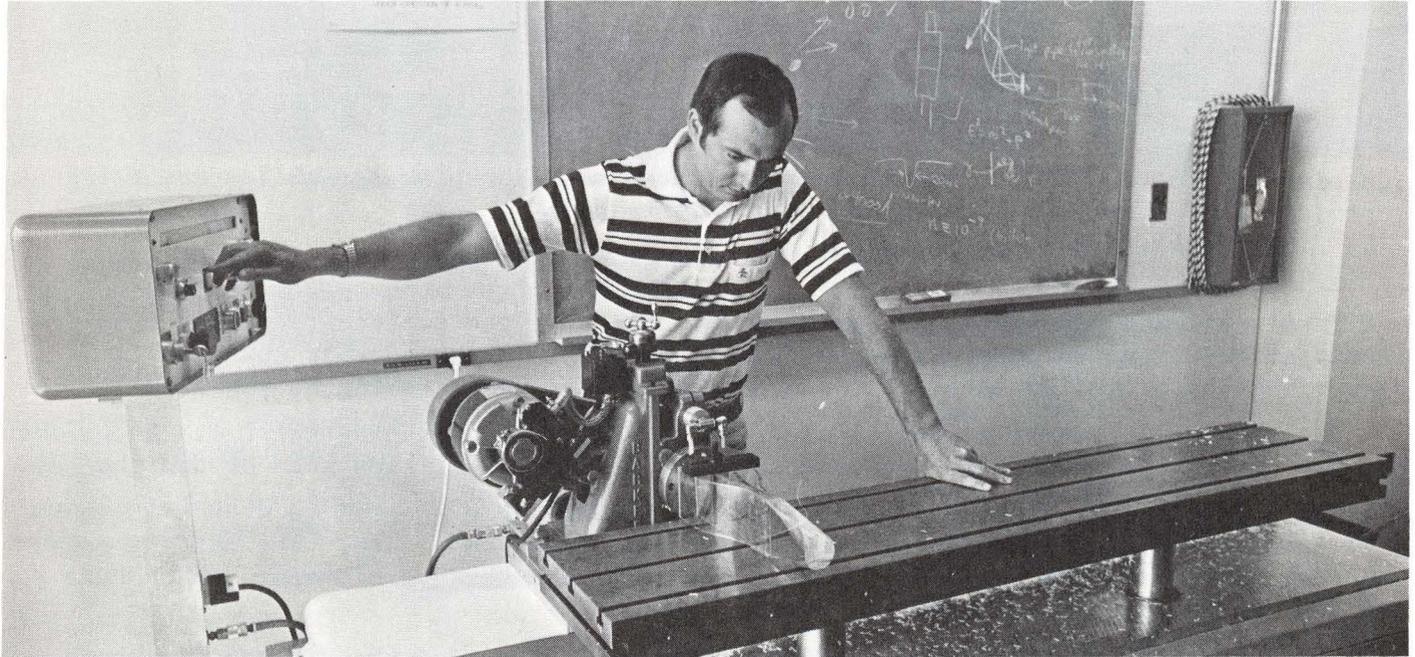
fermi national accelerator laboratory

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P-4 IMPROVES PLASTIC FABRICATION PROCESS



...Richard Krull demonstrates P-4 plastic fabricating machine...

Plastics and particle research? Unlikely partners, perhaps. But most Fermilab experiments depend on quantities of plastic parts to function.

And these parts are originated or replaced "in-Lab." Plastic fabricating was improved recently with a machine created by Physics Department staffers. Converting a concept to a working tool were Carl Lindenmeyer, designer; John Korienek, senior technical aide; Stanley Bristol, electronics engineer; and Richard Bingham, senior technical aide.

Not available commercially, the one-of-a-kind tool was christened "P-4" -- Physics Precision Plastic Planer.

About six months' part-time work plus \$6,000 in parts and materials, went into the machine. According to Peter Koehler, department head, "P-4 has almost paid for itself during the four months since it has been in operation."

He explained that the machine is used to build scintillation counters, one of the most basic tools used to detect high-energy charged particles in Fermilab experiments.

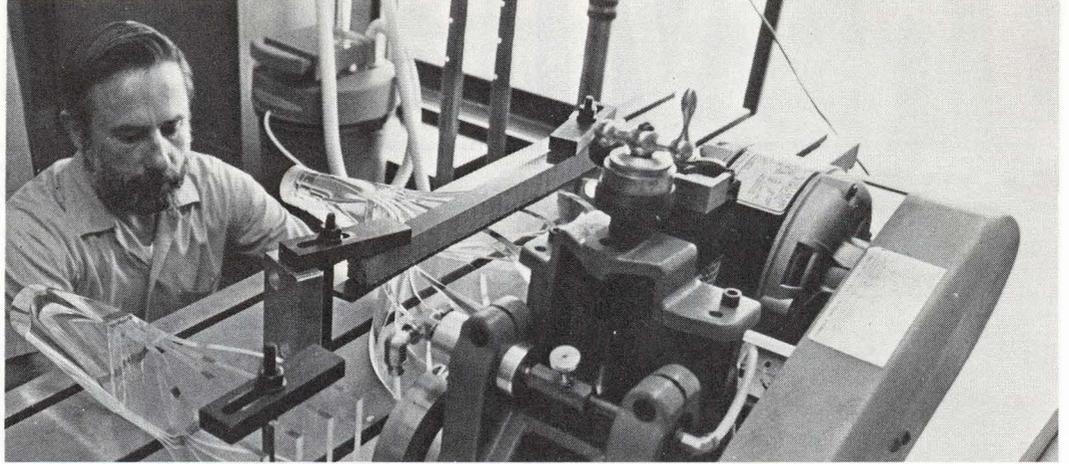
A typical counter, he said, consists of three parts: (1) A piece of plastic scintillator which emits a small amount of light (invisible to the eye) when a charged particle passes through it; (2) A "lightpipe" made of polished lucite which channels the light by internal reflection to, (3) A photomultiplier tube which converts the light impulse to a voltage impulse, which can be counted by fast electronic circuits.

"Before P-4, edges of lightpipes and scintillators had to be polished by hand after being machined by a milling machine," Koehler said. "This was a very time-consuming process."

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...A plastic block project is set up by J. Korienek...



...Carl Lindenmeyer shows how lightpipe assemblies are fabricated on P-4...

P-4 (Continued)

"P-4's primary advantage," he pointed out, "is that the surface resulting from its diamond cutter, mounted on a vibration-free flywheel, is much smoother than the final cut produced by a milling machine. Only a minimum of hand-polishing is required."

Richard Krull, senior technical aide, is in charge of operating the P-4. He expects the workload of the machine to increase as word of its capabilities gets around the Lab.

The machine consists of a 12 x 60-inch steel work table mounted on a 30 x 83-inch metal cabinet. A traveling flycutter head cuts, grooves and planes. The cutting head component is a specially balanced flywheel, about five inches in diameter, which cuts with two "teeth" mounted 180 degrees apart.

The lead tooth, a high-speed steel roughing tool, precedes the diamond finishing tool which cuts only .0015-inches deep. The diamond is gem quality. Designed for optical machining, the jewel is unapproached in hardness and abrasion resistance. The diamond tool may be factory-resharpened many times if carefully used.

Plastic pieces from hand-holdable size up to four feet long may be cut in a single pass. Cut lengths are unlimited with table extensions and/or multiple cuts.

The usual operating mode is automatic, although manual and semi-automatic modes are provided.

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...Revisiting Fermilab recently was Father Theodore Hesburgh, president of Notre Dame University. Above he is with Tim Toohig (L) and R. R. Wilson, laboratory director. Father Hesburgh served on the site selection committee in 1966 which evaluated many locations for a new accelerator laboratory in the United States...

LOST - Driving licenses, checkbook and travelers checks. If found, please contact Charling Tao at Ext. 3613. Small reward.

FOR SALE - '69 VW, 88k mi, rusty, but runs ok, \$350 or best offer. Mike, Ext. 3266.

FOR SALE - '66 Honda 305 cc. Good running condition. \$350. Call Gary at Ext. 3841 or 898-9472.

FOR SALE - '71 Datsun station wagon, air-cond., \$900. For further information, call Tad, Ext. 3172 or Ext. 4154.

FOR SALE - '70 Kingswood Chev wagon, 9 pass, p/s, p/b, a/c, roof rack, trailer hitch. Call Max, Ext. 4446.

FOR SALE - '71 Jeepster Commando, 4 wd, V-6, rebuilt engine, radio, 4 good tires, 5 rims. \$900. Call Rick, Ext. 3349.

FOR SALE - Deluxe townhouse, 3 bdrm, 1-1/2 baths, garage, yard, many extras, in Schaumburg, upper 40's. Ext. 3263, or 882-3055.

FOR SALE - Dressers, 5-drawer, \$17; 3-drawer, \$13; 8-drawer, \$35; single bed, \$15; hardwood desk 6 drawer, \$25. Call 357-2564.

FOR SALE - '70 VW Squareback, new engine (15,000 miles), body and mechanics in excellent condition. \$1400 or best offer. After June 15th. Call L. Kluberg, Ext. 3889 or 859-0319.

FOR SALE - '74 Triumph Trident, 650 cc, 3 cylinder, sissy bar, helmet, in showroom condition, only 1000 miles, \$1850. Call Greg, Ext. 3677.

FOR SALE - Boulder Hill, 3 bdrm ranch, carpeted, 1 car garage, lge fenced yard, lots of fruit trees, \$36,500. Call Greg, Ext. 3677.

FOR SALE - '74 Honda MT 125 street or dirt, 1200 miles, \$550. Wally, Ext. 3595 or Ext. 3420.

FOR SALE - Motorcycle helmet, Bell Star, full coverage, white, 7-1/8 with Varishield, \$30. Mark Leininger, (312)830-1117, or Ext. 3690.

FOR SALE - Chickering console piano, mahogany w/bench, in very good condition, just tuned, 2 yrs old, original owner. \$1600 or best offer. Call Ext. 4068 or Ext. 4059.

FOR SALE - Home, 3 bdrm, lvng room, big kitchen, bsmt, 1 car gar, nice yard, \$17,500. (Lockport area). Call Jack, Ext. 3370.

FOR SALE - '65 Chev Bel Air Sedan, green, reliable, cheap transportation, \$75. Call J.K. Walker, Ext. 4272.

FOR SALE - House, Aurora, beautiful 3-bdrm, 2-story, huge kitchen, carpeted lvng, dng, den, bsmnt, garage, lge lot, low taxes, \$34,900. Call Ext. 3451.

FOR SALE - TV, ham and radio gear. Headsets, mikes, tubes dating back to 1939. Piece-meal or volume. Call Bill, days 293-1157, evenings Ext. 3362.

FOR SALE - Good used king size white bdrm set, includes box springs, both dressers, night stand, all for \$75. Call Jeff, Ext. 4432 or 892-3425.

FOR SALE - Gold couch, 2 chairs, \$300; din. 4 chairs, \$110; oak bdrm set, \$330; sofa and chair, \$90; cord chr and lamps, misc., 859-0319 or Ext. 3666. After June 14.

MOVING SALE - Washer, \$60; vac \$35; drapes, appl, VW tires, misc. Sat, Sun, June 18, 19; Sat, Sun, June 25, 26, 10 to 6, 930 McClaran, Aurora.

FOR SALE: '58 Chevy Impala, midnight mist blue/black leather int/V8-283 engine/auto. Won 4th place in L.A. car show. Show condition now! \$2000 firm. Call Ron after 5:30 p.m. 361-4286.

FOR SALE - 3 bdrm brick ranch, encl porch, hardwood floors, 1-1/2 baths, paneled bsmt, fireplace, good Wheaton location. Upper 50's. Call 690-1987

FOR SALE - 160 ft of high quality fence, enough to go around two FNAL garden plots. \$10. Call Ted, Ext. 4047.

FOR SALE - King size "King Coil" mattress - very good condition, \$40. Call Ext. 4403 or 584-2801.

FOR SALE - '69 Rambler Ambassador, best offer. Ext. 3432.

FOR SALE - '75 Vega GT Wagon, P/s, P/b, air, stereo, low mileage, mint condition, \$2400 or best offer. Call June, Ext. 3293.

GOING ON VACATION? Need a house sitter for awhile? Call Greg Quist, Ext. 4103 for information if interested.

If you have an old (or new) bike around, 26" preferred, and willing to sell, lease, or lend it, let me know. Call Greg, Ext. 4103.

FERMILAB BOWLING AWARDS BANQUET

FERMILAB bowlers celebrated the 1976-77 season with an awards dinner-/dance in the Village Barn.

FIRST PLACE TEAM

"Just Us"

Roy Justice Theo Gordon
Jackie Coleman Tom Topolski
 Jim Moncrieff

| | <u>HIGH AVERAGE</u> | <u>HIGH SERIES</u> | <u>HIGH GAME</u> | <u>MOST IMPROVED</u> |
|--------|---------------------|---------------------|------------------|----------------------|
| MEN: | Roy Justice (175) | A. Forni (651) | Mike Wilks (244) | Art Streccius |
| WOMEN: | J.Strickland (163) | M. Richardson (527) | J.Coleman (232) | Emily Luisada |

HIGH TEAM SERIES: We're Stuck (2909), Doug Maxwell, Captain
HIGH TEAM GAME: Whippersnappers (1058), Barb Schluchter, Captain

1977-78 Officers: Sharon Koteles, president; Ed LaVallie, vice-president; Marion Richardson, secretary-treasurer; and Edith Brown, recording secretary.



...1976-77 Officers, (L-R) B. Schluchter, recording secretary; E. Stitts, vice-president; M. Richardson, secretary; and A. Guthke, president...

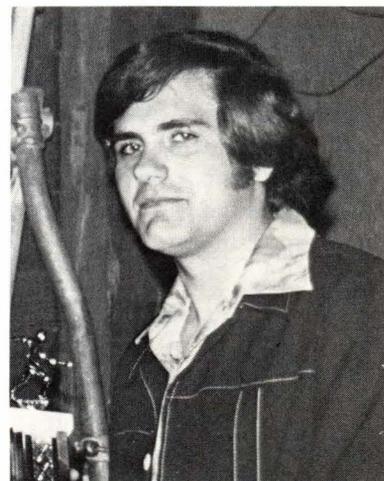
...First place, (L-R) R. Justice, J. Moncrieff, J. Coleman, T. Topolski, and Theo Gordon...



...Jane Strickland, women's high average...



...M. Richardson accepts women's high series trophy from E. Stitts...



...Al Forni, men's high series...

SWIM LESSON SIGNUP UNDERWAY

Children's swimming lessons will be offered in the 1977 Fermilab pool program. The lessons will be taught by a certified water safety instructor. Sessions will be held:

Session 1 - June 13 through July 8
Beginning Lessons - Monday - Wednesday -
Friday: 10:00 - 11:00 a.m.

Intermediate Lessons - Tuesday - Thurs-
day: 9:30 - 11:00 a.m.

Session 2 - July 11 through August 5
Beginning Lessons - Monday - Wednesday -
Friday: 10:00 - 11:00 a.m.

Intermediate Lessons - Tuesday - Thurs-
day: 9:30 - 11:00 a.m.



Beginning lessons will cover becoming adjusted to the water, blowing bubbles, float-
ing, kicking, pulling, and a combination of the above for a basic swimming stroke. In-
termediate lessons will further develop the basic swimming skills. The child in the in-
termediate class should be able to swim 30 feet with a slow, relaxed stroke. Class con-
tent will include stroke development, water safety techniques, and diving. Session 1
registration opened Saturday. Session 2 registration will begin July 1. The fee for
swimming lessons is \$12 per child for each session. An adult membership is required to
enroll a child for lessons.

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HAWAIIAN LUAU JUNE 11

Friday (June 3) is the deadline to obtain tickets for "Polynesian Paradise," a
Hawaiian-style luau June 11 at the Village Barn area. Cash bar opens at 6:30 p.m., beer
is 50¢, mixed drinks are 75¢. A Hawaiian luau menu includes: egg rolls, shrimp tempura,
sweet and sour meatballs, Hawaiian chicken, baby back ribs and assorted Polynesian vege-
tables and fruits. Dancing will begin at 9 p.m. and Kai Loni and the "Stars of the
Pacific" will perform a special Hawaiian dance at 10 p.m. Tickets, \$8 each, are on sale
in the cafeteria. You may also purchase tickets from the following persons: Jean
Plese, CL-2E; Barb Schluchter, CL-2W; Jesse Guerra, CL-11E; Keith Schuh, CL-14; Ralph
Ovitt, CL Ground Floor; Ed LaVallie, CL-11W; Dennis Borree, Lab 7; Mary Luba, CL-10N;
Bud Stanley, 43 Feldott; and Jack Johnson, Energy Doubler, Lab 5.

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VACATION IDEAS: FIVE WAYS TO SAVE

Want to stretch your vacation dollars?
Fermilab employees can with five free discount
cards available from the Recreation Office.
The coupons provide benefits and privileges
not offered to the general public. Partici-
pating fun spots include: Marriott's Great
America, Gurnee; Wisconsin Dells 20% Savings
Club; Six Flags over Mid-America, St. Louis,
Mo., Opryland U.S.A., Nashville, Tenn.; and
Disneyworld/Disneyland.

A family of four, for instance, will
save \$4 in admission prices at Great America
when presenting a "Carousel Club" card to the
cashier. For this and other discount cards,
contact Helen Ecker, CL-1W, Ext. 3126.

Marriott's
GREAT AMERICA

SIX FLAGS[®]
OVER MID-AMERICA

Walt Disney World[®]



Disneyland[®]

Wis. Dells Vacation 20% Savings Club