



## ELECTRICAL ENGINEERING NEWS

Terminal Fair - PSL participated in the 1981 Micro Computer and Terminal Fair sponsored by the Wisconsin Department of Administration and the Academic Computing Center. Paul Anderson, Lois Blackburn, Paul Haerberli, Art Penpek and Mark Werner represented PSL at the two day fair. They had several people stop and ask questions about PSL and its services. We want to thank all the people who did visit our booth and remind you to contact Art Penpek (E.E. Coordinator) or Linwood Thomas (Mechanical Engineering Coordinator) if you want to discuss any ideas or services that PSL may be able to provide.

We also want to thank Mr. Al Haferman and Mr. Al Roberts of MACC for allowing PSL to be part of the 1981 Fair.

Medical Physics - Radiology Department - Professor Charles Mistretta. John Hicks reports that the new design for the present Digital Video Image Processor is progressing very nicely. John helped design the original unit which can digitize, store and process images from a conventional radiographic TV Fluoroscopy System. Jerry Lancaster of Professor Mistretta's staff is working with John.

UW Extension - Lorne Parker/Dennis Gilbertson. Paul Anderson and Mark Werner installed the Telephone Tape Message System. They participated in a work shop to teach the Extension personnel how to use the newly installed system. The system is 100% operational and will be used to its full potential in the near future. Mark configured the system and engineered the interface between the Tape Machine and the computer. Paul wrote the

software to handle the many functions needed for this unique Tape Message Unit.

Call Dennis Gilbertson at UWEXT - Radio Hall if you would like to see this new addition to their present services.

UWEXT - Lorne Parker/Chris Olgren, Dennis Gilbertson. Mark Werner is working on the software for a Prototype One Way Line Graphics. This system is intended to upgrade the present Flexo-writer units. The new system will enable graphics and alphanumeric characters to be stored, displayed locally, enable transfer of this data over telephone lines to selected remote sites, and displayed for the remote viewers. Mark is working on the final phases of the project.

Ophthalmology - Professor Ulker Keesey. John Hicks is working on this project which involves the study of eye stimuli research. John is designing the necessary interfaces to communicate with an existing PDP 11/34 computer.

UW Safety Department - Robert Radtke. Paul Matteoni and Helen Raizen have worked out a proposal to enable the selection and use of an in-house computer for the Safety Department. Helen would be assigned to write the software package for the selected system.

## EDITOR'S NOTE

Sorry about the long delay between newsletters. I hope this hasn't caused too much inconvenience. The PSL OBSERVER will once again be coming to you every other month. Thank you for your patience.

# PSL OBSERVER

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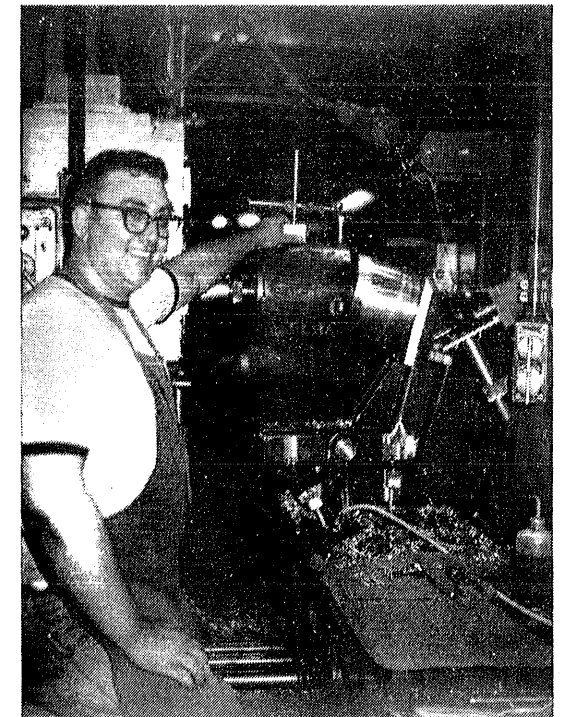
## ALADDIN UPDATES: MICROTRON OPERATES!

Recently swift progress and successful operation of the 100 MeV racetrack microtron have been achieved. In June an initial beam energy of 35 MeV was obtained. However, slow improvement followed until 10 September when correction of an unknown magnet misalignment promptly increased beam energy to 45 MeV with a much better beam loss profile. By 15 September beam had been accelerated to 95 MeV and on the next day a full energy (100 MeV) beam was extracted from the microtron. This day was particularly appropriate because in the late afternoon Mikael Eriksson of Lund University (Sweden) arrived for a two day visit of the Aladdin facility. Mikael was primarily responsible for the first 100 MeV racetrack microtron that ran to full energy about 1 1/2 years ago. The Aladdin microtron is therefore the second such microtron in existence.

Work now continues to make the Aladdin storage ring synchrotron operational. A brief effort will be made to further understand and improve beam acceleration in the microtron. After reconnecting the beamline between the microtron and the storage ring, electron injection into the ring will commence. This involves inflection and single turn containment of the beam. Then accumulation of 100 MeV (injection energy) electrons must be achieved by multiple turn injection. Lastly, acceleration of an accumulated beam to full energy (1 GeV = 1000 MeV) in the storage ring will complete "successful" operation of the accelerator.

Persons currently involved on machine development include Carl Bauman, John Budden, Mike Green, Tom Moog, Tom Nelson, Soeun Ouk, Ed Rowe, Rob Rowe, Walt Trzeciak and Bill Winter.

## INTERMODULE STELLERATOR



UWPSL Instrument Maker Don Dressler is operating the Lucas boring bar in fabrication of the toroidal surfaces for the Intermodule Stellerator (IMS) coil blanks. The same tooling will be used in subsequent computer controlled wire sawing of the IMS coils to their final shape and dimension (For feature story on the IMS see the May 1981 issue of the PSL Observer).



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PHYSICS LIBRARY  
4220 CHAMBERLAIN

NEW PROM PROGRAMMER - PSL. PSL has several personality cards for our new Prom Programmer. The Unit can be used independently to copy Proms and/or attach to a VAX port for down loading when new proms are to be programmed. We are able to accommodate the following devices:

PROMS THAT PSL CAN PROGRAM

Part #	Type	Array Size	Pinout	Manufacturer
2708	EPROM	1kx8	24	Texas Instruments
2708	EPROM	1kx8	24	Advanced Micro Devices
2708	EPROM	1kx8	24	Electronic Arrays Inc.
2708	EPROM	1kx8	24	Fairchild
HN462708	EPROM	1kx8	24	Hitachi
2708	EPROM	1kx8	24	Intel
2758	EPROM	1kx8	24	Intel
2708	EPROM	1kx8	24	Mostek
2708	EPROM	1kx8	24	Motorola
2708	EPROM	1kx8	24	National Semiconductor
MSM3758AS	EPROM	1kx8	24	OKI Electric-Japan
8518	EPROM	1kx8	24	Fujitsu
AM2716	EPROM	2kx8	24	Advanced Micro Devices
2716	EPROM	2kx8	24	Electronic Arrays
2716	EPROM	2kx8	24	Fairchild
MBM2716	EPROM	2kx8	24	Fujitsu
HN462716	EPROM	2kx8	24	Hitachi
2716	EPROM	2kx8	24	Intel
2716	EPROM	2kx8	24	Mostek
TMS2716	EPROM	2kx8	24	Motorola
MCM2716	EPROM	2kx8	24	Motorola
MM2716	EPROM	2kx8	24	National Semiconductor
2716	EPROM	2kx8	24	NEC Microcomputer
MSM2716A	EPROM	2kx8	24	OKI Electric - Japan
TMS2716	EPROM	2kx8	24	Texas Instruments
2516	EPROM	2kx8	24	Texas Instruments
2532	EPROM	4kx8	24	Texas Instruments
2732	EPROM	4kx8	24	Intel
MCM2532	EPROM	4kx8	24	Motorola
1702A	EPROM	256x8	24	Intel
3702	EPROM	256x8	24	Mostek
1702A	EPROM	256x8	24	National Semiconductor

HOT GAS FROM GTNS

Paul DeLuca has been granted tenure as an Associate Professor in the newly created Medical Physics Department. He has often remarked that he wouldn't believe it until he read it in the papers, and on June 8 he got his wish. Paul visited München, Germany where he presented papers describing the combined neutron and cobalt-60 photon facility of the Gas Target Neutron Source at the Fourth International Symposium on Neutron Dosimetry in Medicine and Biology.

Pat Higgins accepted a position with the Radiation Therapy Department of the University Hospital (Clinical Science Center) effective July 1. Pat will continue his radiation biology experiments at the Gas Target and will be a frequent visitor to PSL.

The Gas Target group has just acquired a Digital Equipment Corporation LSI-11 computer for real-time data acquisition and processing. Various members of the group have been trying to implement a graphics display package written for it. Soon the device should be capable of playing Asteroid Blaster and other scientific endeavors.

COMINGS AND GOINGS

Several people have joined the PSL staff since your last issue of the PSL OBSERVER. Helen Raizen joined us as a Programmer, Wang Yan-Fang is a Chinese Scholar, John Randall joined our Machine Shop, Linda Budnar is our new receptionist, Ken Kriesel joined our staff as a mechanical engineer, and Tom Winch has rejoined our staff, also as a mechanical engineer. Welcome aboard!

We also have had a few people leave the staff of PSL. Mark Rowe and Paul Haeberli left to return to school, Pam Woodruff accepted a teaching post in Scotland and Paul Luxem, head of our Support Shop, retired on 1/8/82. Paul started work with PSL in 1966. We at PSL wish all of you much good fortune in your endeavors.

