

# ENGINEERING NEWSLETTER

APRIL-MAY-JUNE 1983

James F. Machen, associate professor of engineering technology, has accepted the appointment of assistant dean of engineering, effective June 27, 1983. The primary responsibility, relating to this appointment, is the administration of the pre-engineering program.

Dr. Demetrios Raftopoulos, recipient of the 1983 Sigma Xi Outstanding Research Award, will be honored at the June Commencement. President Glen Driscoll, our commencement speaker, will present Dr. Raftopoulos with a \$1,000 check and plaque during the ceremony. *Congratulations!* Approximately 168 engineering degrees will be conferred. The commencement is scheduled for June 11 at 1:00 p.m. in the Student Union Auditorium.

Dr. Theo Keith received a \$15,020 continuation research grant from NASA Lewis on the project, "Double Fed Induction Generator Study." Dr. Thomas Stuart is assisting with the research.

Dr. Phil White was awarded a \$4,371 summer research grant on "Computer Graphics," by NASA Lewis Research Center.

Dr. Harold W. Oyster, of the Board of Trustees, noted that NASA had provided the University with some \$2,319,000 over the past five years in support of research and educational programs in the College of Engineering. Under our educational program, some 220 NASA employees have earned masters degrees and 18 have earned doctorates since the program began in 1961.

Dr. W. Robert Terry has been selected for the 1983 Summer Faculty Research Program by the Air Force Office of Scientific Research (AFSC). In addition, a USAF-SCEEE Graduate Student Summer Support Program was awarded to Norman Zaenglein (graduate assistant in industrial engineering) to work under the direction of Dr. Terry. They will spend the summer months at Wright Patterson AF Base.

The Digital Equipment Corporation donated a PDP/11/44 computer system to the CSE department thru a proposal submitted by Dr. Donald Ewing. The equipment is valued at \$56,500 and will be incorporated into teaching laboratories and research activities of the College.

Allied Corporation donated \$2,000 to the department of electrical engineering and \$2,000 to the department of mechanical engineering for scholarships and departmental needs.

A 3.8 liter engine (value estimated at \$2,000) was donated to the department of mechanical engineering by Ford Motor Company, Dearborn, Michigan.

Dr. Patricia J. Smith (Ph.D '83) and Dr. Theo G. Keith co-authored a paper, "Thermo-elastohydrodynamic Analysis of an Oil Pumping Ring Seal," which has been published in the Israel Journal of Technology, Vol. 20, 1982, pp. 49-59.



Dr. W. Robert Terry and Dr. E. M. Dar-El (professor & chairman of industrial engineering at Technion-Israel Institute of Technology) have co-authored a three-part series of articles which have been published in the Project Management Quarterly: 1) A Multi-Project Planning System - An Application to Shipbuilding (pp. 63-68, June 1982); 2) Tactical Planning for Multi-Projects - An Application to Shipbuilding (pp. 73-83, September 1982); 3) A Multi-Project Planning System - An Application to Shipbuilding (pp. 63-69, December 1982).

Kenneth A. Kroos (Ph.D. '82), Dr. Theo Keith & Dr. J.E.A. John (Univ. of Massachusetts) co-authored a paper, "The Effects of a Turbulent Thermal Discharge Into a Three-Dimensional Rectangular Cavity With Outflow," which was published by the American Society of Mechanical Engineers, 83-FE-18.

Vahik Eskandari (MSME '82), Dr. Gerald Jakubowski and Dr. Theo Keith are co-authors of a paper, "Heat Transfer From Spherical Ice in Flowing Water," published by the American Society of Mechanical Engineers, 82-HT-58.

Dr. W. Robert Terry has co-authored five papers which have been published by North-Holland Publishing Company under the title of Applied Time Series Analysis, 1982:

- 1) A Multiple Time Series Analysis of Cotton-Polyester Market Competition (with Lucille Terry-BGSU, pp. 409-413)
- 2) A Time Series Analysis-Approach for Designing Military Compensation Systems (with L. E. Bishop-USAF, pp. 415-422)
- 3) A Time Series Analysis-Approach for Determining the Impact of A Traumatic Accident on Productivity (with L. E. Bishop, pp. 423-429)
- 4) Learning and Inflation (with F. A. Frisch, US Navy, and S. G. Kapoor, Univ. of Illinois-pp. 431-437)
- 5) A Time Series Analysis-Approach for Evaluating the Impact of Safety Programs (with Dennis Price -Virginia Tech, pp. 439-444)

Dr. James B. Farison presented a paper, "Eigenvalue Shifting in Control System Design," at a Mathematical Modeling Seminar sponsored by the department of electrical engineering on May 3, 1983.

Dr. R. Kenneth Wolfe presented a paper, "The Kalman Filter to Estimate Parameters of Box-Jenkins Forecasting Models," at a seminar on May 20, 1983 at the UT College of Engineering.

Dr. Ashok Kumar will present a paper, "A Simplified Method to Compute Radio-Nuclide Concentration Under Sea Breeze Situation," (co-authored with Suzanne Thomas) at the 76th annual meeting of the Air Pollution Control Association to be held June 19-24, at Atlanta, Georgia.

Atul Bajpai (graduate research assistant) and Dr. Steve Kramer are co-authors of two papers, "Detection and Elimination of Mechanism Defects in the Selective Precision Synthesis of Planar Mechanisms and Nonlinear Programming Model for the Synthesis of Planar Mechanisms satisfying Arbitrary Combinations of Position, Velocity and Acceleration Constraints," which have been accepted for presentation and publication at the 8th Applied Mechanisms Conference, September 18-20, 1983 at St. Louis.

The annual meeting of the Ohio Academy of Science was held at Bowling Green State University on April 22 and 23. The following UT Engineering faculty participated:

Adel Ghandakly and Peter Kronegger (EE graduate student), "A Direct Method for the Design of Digital PID Controllers for Power Generator Excitation and Governor Systems."

Adel Ghandakly, Roger King and M. Vichitchot (EE graduate assistant), "Design of an Excitation Control System to a Wind Generator for Maximum Output Power."

Adel Ghandakly and Domingo Uy (EE graduate assistant), "Design of a Digital PID Controller for AC Generator Excitation and Governor Control System."

James Farison and Domingo Uy, "Comparison of the Methods of Fu and Fahmy for Feedback Control System Design by Eigenvalue Shifting."

B. N. Shabestari (EE graduate assistant) and James B. Farison, "Eigenvalue Analysis of Calculations in X-Ray Image Reconstruction by Backprojection Techniques."

(Abstracts of these papers are printed in the Ohio Journal of Science, Volume 83.)

Dean Les Lahti addressed the participants in the Student Awards Luncheon at the Ohio Society of Professional Engineers State Convention, held April 21-23, at Perrysburg.

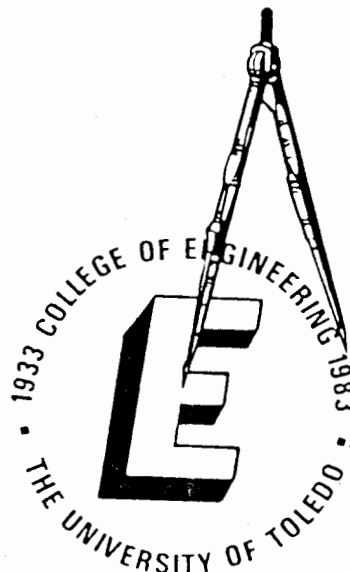
Associate Dean E. W. Weaver has written an article, "Technical Opinion," which appeared in the May 1983 issue of Toledo Technical Topics.

The Honors Program (distributed on Honors Day, May 18) contained over 421 engineering students as receiving scholarships, awards, recognitions and membership into honor societies. Thomas T. Mowery (senior in engineering physics) was recognized for prestigious scholarship achievement in the College of Engineering.

The last two 50th Anniversary Celebration seminars, "Enhancing Engineering Management" (Civil Engineering) on April 27 and "Computer-Aided Design" (Mechanical Engineering) on May 11 at the Continuing Education Center, were well-attended. The following distinguished alumni were honored. This brings the total to 53.

#### Civil Engineering

Alfred A. Samborn '39  
Eugene Kasper '50  
Dr. Gerald Frederick '59  
William E. Brewer '51  
Richard Oliver '51  
Lester H. Poggemeyer '62  
John D. Herl '69  
George Huber '66  
James F. Hope '39



#### Mechanical Engineering

Raymond C. Peterson '37  
Phillip Wood '42  
Ernest W. Weaver '43  
John H. Weaver '43  
Delos Palmer, Jr. '52  
John F. Teigland '55  
Phillip Mazziotti '56  
Eugene Novak '59  
Rudolph Eskra '59  
Orville E. Phelps '62  
Bruno A. Rosa '62  
Richard Schreder '67  
Dr. William Janna '71  
Richard W. Towse '59  
Aniese E. Seed '49  
Dean K. Seizert '49

Dr. Gerald Jakubowski and Professor Daniel Solarek attended the annual meeting of the North Central Section of ASEE on April 29-30, in Johnstown, Pa.

Dr. Donald Ewing attended the meeting of Computer Science Chairpersons (State of Ohio) held on May 6, at the Ohio State University, Columbus.

Dr. Adel Eltimsahy attended the Energy Monitoring and Control Systems Working Group Meeting of IEEE/IAS, on May 8-10, at Milwaukee, Wisconsin.

Dr. John Hemdal attended the Acoustical Society Conference on May 10-12, at Cincinnati.

Dr. Phil White reviewed the McDonnell Douglas CAD/CAM System on May 10, in Detroit.

Dr. Edwyn Smith attended the conference on Lasers & Electro-Optics, on May 15-19, in Baltimore, Maryland.

Dr. Colby Ardis attended the Civil Engineering Accreditation Forum and the National ASCE Convention on May 16-18, in Philadelphia.

Dr. Benjamin Koo attended the ASCE Mechanics Specialty Conference on May 22-25, at Purdue University, in West Lafayette, Indiana.

Steve LeBlanc attended a NSF Short Course on Microcomputers on May 24-26, in Detroit.

Plans are underway for faculty to attend the ASEE annual conference to be held at Rochester, New York on June 19-23. Travel requests are in for: Dean Les Lahti, Dr. Andrew Heydinger, Dr. Colby Ardis, Mr. Varasasi Sasidhar, Dr. Richard Molyet, and Dr. Gerald Jakubowski.

Dr. S. C. Kwatra will attend the Satellite Communication Conference to be held on June 14-23, at Ottawa, Canada.

Thanks to those of you who have responded to the Flower Fund. George Ruth, mechanical engineering technician, is in the hospital at this time. We have sent a planter and our best wishes for his speedy recovery.

Important dates to remember:

June 3	Honors Breakfast Continuing Education - 7:45 a.m.
June 6,7,8	Dean's Office-Merit Recommendation Review by all faculty
June 11	Commencement Student Union Auditorium - 1:00 p.m.
June 13	Summer Session I, Summer Session III
July 18	Summer Session II
FARP Programs	July 6/7; July 11/12; July 13/14/15