

NEWSLETTER

Department of Metallurgy and Mining Engineering

University of Illinois at Urbana-Champaign

February 1976

Financial Aid Grows

A recent phone call from Ed Clarke of Fansteel demonstrates the kind of support that inspires us to renewed efforts to maintain the high level of our undergraduate program. Ed wanted to know why we hadn't dunned him for Fansteel's annual contribution to the financial aid program, and wondered if it wasn't time for us to talk about whether or not their \$1,500 annual contribution was adequate.

This year, Continental Oil Company joined our list of supporters with a substantial contribution. This action followed a visit by Wayne Glenn, president of AIME and also of Conoco's Western Petroleum Division. We discussed the vital role of materials in energy production, and his impression of the program here resulted in this support.

Most recently, a check was received from Wagner Casting in Decatur, with whom we enjoy a strong interaction.

Other members of the honor roll of contributors to our financial aid effort to interest students in metallurgy include Abex, Alcoa, Armco, Caterpillar, Chicago Bridge, Deere, Dow, General Motors, Inland Steel, Interlake, Olin, and Republic Steel.

Additional funds are needed to maintain this program and we again ask you to consider whether your company should also be a part of this effort. ●

ALUMNI ASSOCIATION

A great deal of the cost of publishing the *Newsletter* is borne by the portion of metallurgy alumni dues that are remitted to the metallurgy and mining constituency of the Alumni Association. We encourage all of our alumni to support the University and the department by main-

MATERIALS ENGINEERING PROGRAM

Teaching and research in materials is the largest single activity in the College of Engineering; about one-fourth of the faculty of the College is engaged in either the science or the engineering of materials. The topics are many — concrete, rock, soils, ceramics, polymers, metals, glass, amorphous semiconductors, light-emitting diodes, magnetic materials, oxides — you think of it, chances are we're working on it.

The science side of education and research is centered in the Materials Research Laboratory, which has block funding from ERDA and NSF. One of the central facilities of that laboratory of importance to metallurgists is the electron microscope laboratory, which contains two transmission scopes, a scanning electron microscope, an electron microprobe, and an Auger spectrometer.

Some of our staff are associated with the program on surfaces and electronic phenomena of the Coordinated Science Laboratory. Our chief efforts there are in surface chemistry, surface diffusion, and thin-film semiconductors.

One large remaining group consists of faculty and students engaged in research on mechanical applications of materials in structures and machines. It consists of about 30 staff members distributed through a number of departments — Aeronauti-

cal and Astronautical, Ceramic, Civil, Mechanical and Industrial, and Metallurgy and Mining Engineering, Theoretical and Applied Mechanics, and the Nuclear Engineering Program. This group has no central laboratory, although the individual departments have numerous research facilities.

To give this group visibility and cohesion, we call the area "Materials Engineering — Mechanical Properties." We will develop space and equipment for a central mechanical testing laboratory in Talbot Laboratory. Space once occupied by Civil Engineering will be remodeled and modern testing facilities will be installed. Technical aides will be acquired to maintain equipment and assist in carrying out experiments, just as we now have such assistance in the science and electronics side in the other laboratories. Of course, money doesn't come easily these days, and our time schedule is uncertain. But, IT WILL BE DONE.

Areas of special interest to us are these:

1. Materials characterization and development,
2. Materials processing and joining,
3. Design and reliability of materials systems,
4. Design of metals, alloys, and composites,
5. Corrosion, stress corrosion, and surface effects,
6. Inelastic behavior of materials,
7. Fracture control, antifailure engineering.

Because of his own interest in materials, Dean D. C. Drucker is enthusiastic in his support of the effort. Charlie Wert is presently acting as coordinator of the work. ●

taining their alumni association contact with their alma mater. If the Alumni Association hasn't already found you and described the many other advantages and satisfactions of membership, you can request membership forms from their office in 227 Illini Union. ●

ALUMNI NOTES

Don Coulter, '25, retired in 1972 from a position as civil engineer with the U.S. Army at Gallup, New Mexico, and moved to 226 H St., N.W., Miami, OK 74354. Don is devoting much of his free time to Masonic Lodge work.

Our apologies to A. E. Murton, '25, for incorrectly stating his address last year. We should have said 1532 Granville Dr., Winter Park, FL 32789. Mr. Murton, retired president of Blaw-Knox, visited the department during this past year while in Urbana for a U. of I. Foundation meeting.

Grant Hollett, '40, joined the Commonwealth of Virginia's Division of Mineral Land Reclamation and is based in Big Stone Gap, Virginia. Grant retired in 1972 after 17 years with Cleveland-Cliffs on the Mesabi, and then 15 years with Reynolds Aluminum. With over 30 years of digging holes around the hemisphere, Grant now plans to give some attention to how to refill them. He also plans to include some consulting activity in his program of "retirement."

Harry Czyzewski, '41, president of MEI-Charlton Laboratories in Portland, Oregon, has donated metallographic equipment to the University of Portland. This gift will permit that school to offer a metallurgical option in their mechanical engineering program. Durgam Chakrapani, '75, finished his Ph.D. here last year, and has just joined Harry's firm and will do theoretical as well as practical work on corrosion problems. Last summer, Harry attended the IV Inter-American Conference on Materials Technology in Venezuela and also toured energy and industrial installations in Central and South America.

R. P. Carreker, Jr., '45, has a new title and address. Roland is manager, materials technology and economic

analysis, material resource and traffic operation for General Electric, and is located at the corporate headquarters in Fairfield, CT 06431.

Stan Paprocki, '46, after a long and successful career at Battelle, has formed his own company, and is president of Materials Concepts, located in Columbus, Ohio. The firm is involved in the development and production of fiber composites. If you want lead with a 100,000 psi tensile and 20 x 10⁶ modulus, see Stan.

We were sorry to learn that Ibrahim Karakoc, '46, died last spring after a long illness. He had been working in his native Turkey since his graduation.

Jonathan Smith, '47, has been promoted from president of Sunbeam Equipment to group vice-president, industrial group, Sunbeam Corporation. Smitty's new position involves a relocation from Meadville, Pennsylvania to Chicago.

Congratulations are due George Sinclair, '49, who was named the first recipient of the Nadai Award of the American Society of Mechanical Engineers. The award was instituted to recognize distinguished contributions to the understanding of the mechanical behavior of metals. This award recognizes George's research over many years in the fields of plastic deformation and fracture of metals. As you know, George is professor of theoretical and applied mechanics here at UIUC.

R. B. Stermon, '50, has recently become director of product assurance for Westinghouse's Offshore Power Systems Division in Jacksonville, Florida, and now lives at 1770 Park Terrace East, Atlantic Beach, FL 32233. This new position is a continuation of a long career in the nuclear power business since graduation, including work at Bettis, for the Navy, as manager of quality assur-

ance of Westinghouse's Electro-mechanical Division, and as quality assurance consultant to Framatome in France.

Bruce Capek, '51, was in Urbana last spring, and told us about his company, Zokur Corporation, which is involved in venture capital projects and the manufacture of heavy underground construction machinery. He is opening an office at Oak Brook, and is living at 336 Forest Rd., Hinsdale, IL 60521.

Paul Shewmon, '52, has finished a tour as director of materials research at the National Science Foundation in Washington, D.C., and is now on the staff of Ohio State University as head of the Metallurgical Engineering Department.

Bob Draznik, '53, is with Sunbeam Appliance in Oak Brook, Illinois, and recently received his MBA. Bob's son is now a student on the UIUC campus, but he is not following his father's footsteps in engineering.

Robert Fisher, '53, favored us with a visit when he was on the campus with a small delegation of his large family. Bob is operations general manager for Perfection Spring and Stamping Corp. in Mt. Prospect, Illinois.

Robert Kay, '55, is president of U.S. Monetary Corp., dealing in gold and silver investing, and lives at 5320 Alcove, No. Hollywood, CA 91607.

Don Woodward, '57, has been plant manager of Kaiser's Los Angeles Extrusion Plant for the past four years. Last year, Don's plant won an award as the best operating team as judged against management criteria and in competition with 79 other plants within the corporation.

Jim Hanafee, '58, was here last summer to visit family in the area and to recruit for Lawrence-Livermore Laboratories.

ALUMNI NOTES

Don Sandstrom, '58, reports his current address at Los Alamos Scientific Lab, Group CMB-6, P.O. Box 1663, Los Alamos, NM 87544.

Jim Yancik, '59, is now with Freeman Coal Mining Corp., P.O. Box 100, West Frankfort, IL 62896, as a coal preparation engineer.

Dan Stoltz, '61, completed his Ph.D. at Florida in 1972, working on the development of an atom probe field ion microscope under John Hren, '60. Dan is with Bendix in Kansas City, and is now supervisor of metallurgical and finishing operations.

Bill Bottomley, '61, is now manager of metallurgical services for Gilmore Steel Co. and is living at 15565 N.W. Perimeter Dr., Beaverton, OR 97005.

Miguel (Mike) Garza Salinas, '61, is involved in the top management of Grupo Industrial Alfa, one of the largest industrial conglomerates in Mexico. Currently, Mike is a director of Draco, a venture to develop production of nonferrous metals in Mexico — principally gold, silver, and copper. Mike's business address is Apartado Postal 1000, Monterrey, NL, Mexico.

George Roman, '61, has been promoted to general manager of *World Mining* and has moved from New York to San Francisco. George's new home address is 329 Kinrose Dr., Walnut Creek, CA 94598. George worked as a mining engineer for Truax-Traer and Paul Weir Co. until entering the publications field with *Coal Age* in 1966. He has been with *World Mining* since 1969.

We enjoyed receiving a newsy letter this fall from Al Kluender, '62. Al has been at U.S. Steel-Gary since graduation, and has moved into the operations side. He is now general foreman of cold roll finishing and shipping. The Kluenders are raising their three children in the country, at 71 Brookview Lane, RR#7, Valpariso, IN 46383.

Chuck White, '65, is associate professor of metallurgy at General Motors Institute, and working on his Ph.D. at Michigan on nodular cast iron. Chuck is also recognized as having developed an excellent course on corrosion at GMI.

Sukumar Jana, '66, is now assistant director of the Central Mechanical Engineering Research Institute in Durgapur, India, and is in charge of the metallurgy and nondestructive testing activity. The institute does research, consulting, and testing, and Sukumar finds this work very interesting.

We read in the local newspaper a wire service story about the miracles that can be wrought by superconductors thanks to a breakthrough development in processing of Nb-Sn cables. At the end of the story, credit was given to Ronald Scanlan, '66, for the development of the technique. This work was done at GE's Research Lab in Schenectady, but we have learned that Ron has since moved across the country and is now working at the Livermore Labs in California.

We enjoyed the chance to visit with Jim DeChant, '66, who dropped by the lab last spring while traveling from Texas to his new assignment with Sundstrand in Rockford, Illinois.

Jim Bohlen, '67, is a captain in the Air Force and based at Kelly Air Force Base in San Antonio, Texas. Jim is working as a materials engineer, and was elected chairman of the South Texas Section of the American Society for Nondestructive Testing. Jim's wife, Sue, is an instructor in the Child Development Department of San Antonio College.

Mike Schmerling, '67, must be settling down in Texas, since he bought a home at 5816 Westslope Dr., Austin TX 78731.

Martin Essien, '68, visited us last summer. Martin lives at 1667, El Tigre, St. Louis, MO 63138. During

the past year, Martin completed his M.S. in engineering mechanics at University of Missouri—Rolla, and earned his professional registration in Illinois.

Tony Flores, '68, is now working as a metallurgist for the Construction Equipment Division of Clark Equipment in Aurora, Illinois.

Terry Sesterhenn, '68, left American Can last June to take a position as a customer service engineer with Central Steel and Wire, 3000 W. 51st St., Chicago, IL 60632. Terry's new home address is 1337 W. Elgin Ln., Schaumburg, IL 60172. This year, Terry is chairman of the Chicago-Northern ASM Chapter.

When Westinghouse closed its laboratory in Brussels, Belgium, last April, Ivan Cornelis, '73, who had just joined the lab was able to find a position in their nuclear division. Emmanuel de Lamotte, '68, has moved to Fabrique Nationale, Division Formetal RMD, B400 Herstal, Belgium. Emmanuel will be responsible for the research aspects of the general production operations. His company is building the Belgian portion of the YF-16 aircraft.

H. C. Tong, '68, is now manager of the materials characterization group of IBM's General Products Division in San Jose, California.

Dennis Majchrowicz, '74, worked for a short while with U.S. Steel in the Chicago district, then left for California, and is now working in the materials and process control lab of Lockheed Missiles and Space Co. in Sunnyvale. At Lockheed, Den works with Illini mets Ed Jakawich, '74, Kirk Webb, '73, and old-timer Ed Frye, '49.

Andrew Yen, '74, has accepted a postdoctoral position in the Department of Metallurgy and Materials Science at the University of Pennsylvania in Philadelphia. ●

NEW ADDRESSES

Here is a list of new and changed addresses we have accumulated over a period of some months:

Henry Wilton, '21: 1017 Beachview #104, Dallas, TX 75218

William Lindsay, '28: 334 Norwalk Rd., Springfield, IL 62704

Eugene Robertson, '36: U.S. Geological Survey, National Center, Mail Stop 927, 12201 Sunrise Valley Dr., Reston, VA 22092

Charles Hamilton, '44: 3716 Rouge Way, Louisville, KY 40218 (Thanks to C. E. Brookhart, '41)

W. E. Hensley, '49: 5300 W. 1st St., Apt. 41, Santa Ana, CA 92703

James W. Snyder, '44: RR 1, Box 330-D, Evergreen, CO 80439

Joseph Melill, '52: 12530 Braddock Dr., #216, Mar Vista, CA 90066

Vito Mitkus, '52: RR 2, Box 144CC, Trafalgar, IN 46181

Robert K. Murray, '59: 203 Paradise Rd., Golden, CO 80401

Paul Stewart, '60: V P Operations, Belco Petroleum, P.O. Box 19234, Houston, TX 77024

Fred Mueller, '61: Star Route, Andrews St., Messena, NY 13662

Toshio Saburi, '61: Department of Metallurgy, Faculty of Engineering, Osaka University, Suita, Osaka, Japan

A. N. Ashurst, '63: GE Nela Park, E. Cleveland, OH 44112

John Bilello, '65: 30 Seville Ln., Stoney Brook, NY 11790

Fred Roehrig, '67: 4800 Hayden Blvd., Columbus, OH 43220

Don Potter, '70: 6612 Fairmount, Downers Grove, IL 60515

Timothy Rozycki, '71: 15121 Chicago Rd., Dolton, IL 60419

H.-Y. Chang, '72: 55 Elmwood Park #28, Quincy, MA 02170

Bob Walson, '74: 4408 6th Street, E. Moline, IL 61244

NEWS OF THE DEPARTMENT

ALUMNI DINNER

The alumni dinner meeting last November in Cincinnati was a mixed success. The two dozen of us that were there had a wonderful time together, but it was a different two dozen than those who had made reservations. We couldn't help but wonder if some weren't there because the Netherland Hilton Hotel scheduled us in the Valley Room without bothering to mention the room was in a different hotel.

The future of these meetings is precarious, as the annual joint meeting continues to decline in size. John Moniger, '44, suggests that next April's National Foundryman's Convention in Chicago might serve as an appropriate site for a meeting. It would attract our many alumni in the Chicago area as well as many who are in the foundry industry. If there is any interest in this suggestion, give your reaction to John, or to us in the department. ●

POLYMER PROGRAM

The department's effort in the area of polymers suffered a setback when Professor Paul Predecki decided to return to Denver Research Institute after only a year in Urbana. Paul is very interested in biomedical applications of polymers, and has close ties with the medical community in Denver.

Ted Rowland and Richard Gaylord are continuing to make progress, however, and are rapidly developing a polymer characterization lab that will enable students to measure the properties important to the applications of plastics. Ted has received an NSF grant to study cross-linking in networks and the relation between the molecular vibrational spectrum and macroscopic properties by means of NMR techniques. Richard presented a paper giving a new theory of stress-induced crystallization of polymers at an ACS symposium.

STAFF NEWS

Dr. Robert Mehrabian joined our staff in the fall; he had been associated with the solidification group at MIT. Dr. Mehrabian will help develop a program of teaching and research in materials processing—an important phase of the department's efforts in the materials engineering fields.

Bob's many interests in the materials processing field include rheology of partially solidified melts, innovations in ferrous casting processes (e.g., casting of vigorously agitated partially solidified alloys), electroslag remelting of superalloys, and casting of composites of metals and non-metals.

Professor C. M. Wayman, along with Professors Fine and Meshii at Northwestern, have translated and edited Nishiyama's book on martensite transformations. The English version should be available this spring.

Professor Paul Beck continues at the pace of a man half his years. During a recent trip to Europe, he became an honorary member of the Hungarian Physical Society, and gave a lecture in Budapest on recent developments in the magnetism of alloys.

Professor B. G. Ricketts, whose retirement last June was reported last year, has sold his home in Urbana and moved to 2913 Spring St., Port Townsend, WA 98368. This will be the Ricketts' address while they plan and build their "dream home" on the lot they purchased overlooking the sound at Port Townsend. By moving to Washington, Barney and Amy not only have returned to their native state, but are also close to their sons Steve and Mel, who also live in the Pacific Northwest.

It is hoped that we will be able to add a member to the faculty in order to continue the growth of the polymers area. ●