NEWSLETTER

Department of Metallurgy and Mining Engineering

University of Illinois at Urbana-Champaign

February 1986

NORM PETERSON IS NEW HEAD: MET AND CERAMICS TO COMBINE

I was pleased to receive the offer to become Head of this department and to begin my duties last November 1. Under the leadership of Charlie Wert and with its outstanding faculty, metallurgy at Illinois is known world-wide for its educational and research excellence. It will be my aim to continue this position of leadership. We will work hard to expand our efforts in the broad range of materials. We already have extended beyond conventional metallurgy with a well-developed teaching and research effort in polymers, and are expanding our programs in electronic materials and computer applications. We want our graduates to have had the opportunity to be prepared for leadership positions in the entire field of materials science and engineering.

A positive step in this direction has been recently approved by the Dean: the consolidation of our Department with the Ceramic Engineering Department into a new unit to be called the Department of Materials Science. While this proposal must go through a chain of approvals, it does seem likely that they will be forthcoming.

It is too early, however, to describe how teaching and research will be organized in the new structure. The existing degree programs in metallurgical and ceramic engineering will continue, with the possibility of new degree designations in materials science and in polymers to be added. Other issues, such as effective use of space that will promote student and faculty interaction, consolidation of some courses, details of administration, etc. will have to be decided. Another important aspect of the merger will be to ensure mechanisms that will permit and encourage alumni to interact with the aspects of the department with which they feel bonds of professional and academic loyalty.

It appears that I will serve as acting head of the new department. Once it is officially established, a committee will be appointed to search for a permanent head.

ENROLLMENT STARTS TO INCREASE AGAIN

Undergraduate enrollment reached a low of 58 in the Fall of '84 as a large graduating class was "replaced" by only four new freshmen. Increased recruiting effort resulted in an increase last Fall to 66, including 17 new freshmen, and the four freshmen became seven sophomores due to transfers. We expect transfernal and junior college transfers bring next Fall's junior class to around 20. We have already admitted over 30 new freshmen for next Fall (not all admitted students actually enroll). As the "pipeline" fills up due to renewed interest in metallurgy, we expect our enrollment will again reach the 90-100 level. Graduate enrollment increased to 115 this year, which is about the capacity of our research programs to support, and includes outstanding students from schools all over the country and abroad.

ALUMNI MEET IN TORONTO

Alumni of the Metallurgy and Mining Engineering Department met October 15 in Toronto, Ontario, and enjoyed each other's company as well as reports from the campus on the exciting developments ahead for the Engineering College. Over fifty alumni were present, and helped honor award recipients of awards presented by Glen Wensch, President of the M&M Alumni Constituency Board of Directors and Richard H. Van Pelt, chairman of the constituency's Awards Committee. U of I Loyalty Awards were presented to Joseph B Darby, Jr and Tracy D. Hann. Loyalty Awardees unable to attend this meeting were William M O'Neill and Richard M Skolly.

The Department's Distinguished Merit Award was given to Robert E Luetje, Russell E Duttweiler, and Salvatore J Grisaffe, Jr. Unable to attend to receive this award was Richard R Berry.

Prior to the general alumni meeting, the M & M constituency's Board of Directors met to discuss current plans and objectives to maintain their role of support of the department, its students, and its alumni. Plan now to attend next year's meeting which will be in early October in Orlando, Florida.

IBM COMPUTER GIFT

Project EXCEL update: The university was given a $12 million grant of personal computers, related hardware and software by IBM for use in undergraduate teaching. The implementation of this equipment in the curriculums across campus is called project EXCEL. This three year program is now in its final year. As part of the second year grant the department was successful in receiving over $100,000 worth of IBM goods. This translates to about twelve personal computers and software. Three uses have been targeted: 1. Four work stations are used in the polymers program for teaching the use of computers in modeling and other computations on polymer properties. 2. Two computers will be outfitted for data acquisition and computation in the undergraduate x-ray laboratory. 3. Six computers will form the nucleus of a department computer facility. Space to house them is being made by moving the metallographic lab into a newly remodeled space adjacent to the present lab and refitting the present metallographic lab for the work stations. These computers will be used for phase diagram computation and display in conjunction with the thermodynamics course and for crystallographic and x-ray diffraction pattern computation and display. The facility is also used for data acquisition and computation in the physical metallurgy laboratories in the junior year. Word processing, statistical analysis and plotting is also operational. Students will also gain experience in computerized data base searching. Eventually, all personal computers in the Met and Mining Building will be joined in a network, which will also be part of a college-wide and campus-wide network. Supercomputing anyone?

ALUMNI NOTES

H Eugene Mauck, '38, paid us a visit last Fall, and recalled days not too many remember: A. C. Callen was department head, and our buildings looked a lot newer. Gene has corrected our records, which show him in the class of '39. He has retired as President of Consol, the coal mining complex in West Virginia, and is now living an active life at 2200 Vermillion St, Apt 111, Danville, IL

Harry Czyzewski, '41 MS '49, continues to have honors showered upon him; most recently the Truesdail Award for outstanding service to independent laboratories from the American Council of Independent Laboratories. Harry's distinguished career as a consulting/testing engineer always emphasized a strong commitment to the profession, and he has been repeatedly honored for his service. He continues as president of Oregon Technical Services Center, Inc, Portland.

Glen Wensch, '46, PhD '49, when he's not working for the M&M alumni spends time with the Air Force Association, has recently received the AFA's highest award, the Exceptional Service Award, for his outstanding contributions to the organization.

Al Hollett, '46, resigned as Vice-President, Operations for Exxon Minerals in 1981, and finding retirement boring, returned to activity as a consultant to the phosphate industry in Florida as well as some work in his main experience, coal and nonferrous metals mining as Allen B. Hollet & Associates, Inc., 1115 51st St W, Bradenton, FL 33529.

We were sorrowed to learn of the death of Ralph Shark, '49, last July. Ralph was chief metallurgical engineer for Flexonics Inc. This news was sent us by his classmate, Ray McGaughey. Ray is with GTE's packaging technology center in Norhlake, Illinois.

Bob Anderson, '50, has retired from his consulting business, Anderson & Associates, in Houston, to the extent of dropping in occasionally to see how son Steve is running the business (quite well, thank you). Bob is finishing his second book on failure analysis, and also did a six-hour tape for ASM as part of their video course on failure analysis.

Paul Shewmon, '52, was a Humboldt Senior Scientist in Stuttgart, W. Germany, a very prestigious appointment. Paul is on the faculty at Ohio State, and recently stepped down as department chairman after eight years in the job.

Richard Berry, '54, appeared in Business Week feature article as one of Olin's triumvirate responsible for the restructuring of Olin. Dick is executive vice-president at Olin's Stamford headquarters after many years at East Alton.

We enjoyed a great conversation with Martin Coale, '54, who took time during a business trip to the Midwest to visit the campus to see if any of the old landmarks were still here.

Howard Friedman, '55, has started a subsidiary company, High Tech Phototool, as an extention of his very successful Fotofabrication Corp. Much of their work is for the electronics industry: resistor networks, printed circuits, etc. Howie's children are all grown now, and spread out between Minneapolis, Brooklyn, and Chicago.

Bruce Aufderhaar, '56, has been named president of Carmet Company of Spartanburg, So. Carolina.

Don Beaman, '58, PhD '64, has been appointed senior associate scientist at Dow's Applied Science and Technology Lab in Midland. Don's specialty is microscopy and surface analysis, and he has made key contributions in a variety of research areas involving surface reactions, microstructure analysis, and analysis. He received the Environmental Quality Award from the US EPA for developing methods for measurement of asbestos in the environment.

Ron Morris, '59, is now living at 10434 Starboard Way, Indianapolis, IN 46256. Ron left Tenneco in 1982 as COO of the automotive division, to become President and CEO of PT Components, Inc. in Indianapolis. This company was formed through a leveraged buyout of the Power Transmission Group of FMC (formerly known as Link-Belt). Ron sends his regards to his old friends and classmates.

Henry Oberle, '59, has retired from Caterpillar, but has remained living in Peoria.

Bob Luetje, '59, was installed for a 3-year term as a trustee of ASM at the annual meeting last October in Toronto. Bob was appointed by ASM to fill a Board vacancy, but this is his first full term of service. Bob's long career at Armco has included research, patents, and marketing activities.

John Hren, MS'60, has resigned his position as professor at the University of Florida to become Chairman of North Carolina State's Department of Materials Engineeri John had been at Florida for ... years. John's work was primarily in the area of electron and field ion microscopy, and he served recently as president of the Electron Microscope Society of America.

John Ewing, '62, who was Manager, General Technology for U.S. Steel in Gary, has moved to Pittsburgh where he is Vice-President-Marketing for USS.

John Bilello, PhD '65, returned to give a seminar on the Synchrotron Topography Project at Brookhaven last Spring. John resigned from the deanship at SUNY-Stony Brook a few years ago to return to teaching and research.

Martin Essien, '68, is General Manager, Sunshine Batteries, Ltd, PMB 1179, Ikot Ekpene, Cross River State, Nigeria, and was recently elected to the Board of Directors of Nigeria's largest steel plant, Delta Steel. Prior to returning to Nigeria, Martin worked in France for Michelin, and while in France, bought a home on the French Mediterranean coast at Port Camarcus, which he enjoys for vacations.

We are sorry to report the unexpectedly sudden death of Bob Large, MS '70. Bob had recently moved to Florida, and his health had deteriorated.

Hiroaki Okamoto, PhD '71, has left Carnegie Mellon and is now living at 743 Everett St, El Cerrito, CA 94530. Hiroaki is working on Be-based phase diagrams within the framework of the ASM/NBS Phase Diagram Evaluation Program.

Chuck Rosenberg, '71 MS '72, completed his judicial clerkship with the US Court of Appeals in Washington last August, and is now with Poms, Smith, Lande & Rose in Los Angeles, a firm specializing in patent, trademark, and copyright law. Chuck is living at 219 S. Barrington Ave, 202, Los Angeles, CA 90049.

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$40,000,000 GIFT FROM BECKMAN

Scientist-inventor-industrialist Arnold Beckman has given the University $40,000,000—believed to be the largest gift from an individual to a public university—to establish a unique interdisciplinary research institute. The Beckman Institute will join social, biological, and physical sciences to study human and artificial intelligence. Part of that study will feature materials research. The Institute, supplemented by a $10,000,000 State grant, will be constructed on the site of Illinois Field at Wright and University streets. This gift will be a major factor in bringing to reality the College's capital development plan—a 15 year project utilizing funds from various sources for a major rebuilding of the engineering campus. A key component of the plan is a new centrally-located library and classroom building. Old buildings to be demolished to make room for new construction include the EE Research Lab (over a century old) and the old Mechanical Engineering Laboratory. The College Administration has given our space needs a high priority, and while there is no new building directly assignable to us, the new construction will release space for our pressing needs.

ADMINISTRATIVE CHANGES

Jerry Fisk, who was our business manager for many years, has been appointed an administrative associate in the Engineering College office. Jerry's experience in budgeting and space utilization are now being used to the benefit of the entire college. Jerry's place has been taken by Roger Cathy, whose time is shared with Ceramics. Roger is a '79 U of I graduate in accountancy, and has had business experience with the school of chemical sciences as well as in the Grants and Contracts Office. Tony Graziano, who was our first business manager under Tom Read a few decades ago, has returned to the campus. We had lost him to college and campus administrative posts, then to the Univ of Delaware, where he was assistant to the president, but he has returned to Illinois, and now serves the College as acting director of the Experiment Station and of Long Range Planning. It's great to have Tony's clear thinking and incisive decision-making talents as well as his effervescent and friendly personality back on the campus.

GRAD STUDENT AWARDS

Angus A. Rockett, a graduate student of Joe Greene, was among the top three students selected to receive $1000 American Vacuum Society scholarships for 1985-86. Dean Miller and David Van Aken are completing their third year ONR Fellowships. These fellowships carry a stipend of $15,000 per year plus an equipment grant to the department, and are awarded on the basis of a competitive selection process.

MARV'S MEMORY PAYS OFF

Marvin Wayman, who has been in the forefront of research in shape memory alloys, has been elected to the board of directors of Memory Metals, Inc. of Stamford, Ct, a company established exclusively to exploit commercial uses of these unusual alloys. In a recent New York Times article about the alloys, Marv was quoted regarding the great growth potential for the industry.

Marv was an invited lecturer on Martensite Transformations and Mechanical Behavior at the 7th Int'l Conference on Strengthen of Metals and Alloys, at Montreal last August. He has also been invited to present the 1986 Winchell Memorial Lecture at Purdue next March. He will speak on the application of shape memory alloys to the Purdue Chapter ASM/AIME, and the Winchell Lecture the following day on the shape memory effect and related phenomena.

SABBATICALS

Carl Altstetter

Carl Altstetter spent an eight-month's sabbatical leave last year as CSIR Research Fellow at the National Institute for Materials Research, Pretoria, South Africa, a relatively new national research facility. Carl's work there focussed on development of Cr-free stainless steels and improved steels for rock drill rods. Among his interesting experiences was a trip 7500 feet down in a gold mine, a visit inside a yogurt tank that had failed due to stress corrosion, and to a "cursed" salvage yard where equipment failures were blamed on its location on the site of a Ndebele tribal burial ground. Of course, the Altstetters had a chance to observe the country's problems related to apartheid, and have a better perspective of the news we receive daily on that country's difficulties. They had many opportunities for travel in South Africa, as well as on their meandering route home, which included Malawi (a place where Americans are welcomed), a safari in Kenya, a trip around Egypt, and a stopover in Portugal.

Haydn Chen

Haydn Chen was on sabbatical early in 1985. He spent part of his time at Taiwan's Industrical Technology Research Institute, and was in Japan at the Photon Factory, Tsukuba City. Haydn and family were able to visit relatives and old friends in Taiwan during their stay. Haydn's proposal to the DOE's University Research Instrumentation program for $240,000 for a high power rotating anode x-ray system was approved this year. This was one of 23 funded projects out of 160 applicants, which is a tribute to the quality of Haydn's work.

WERT VISITS GERMANY AND AUSTRALIA

Charlie Wert attended the 4th International Conference on Coal in Sydney, Australia last October. He and Lucy then visited Melbourne and New Zealand before returning home in mid-November. Charlie presented the paper "Internal Friction in Solids" at a symposium in Pittsburgh honoring the 80th birthday of Clarence Zener. Charlie has also received a 3-month fellowship from the von Humboldt Foundation in Bonn. He will use this opportunity to continue his research on coal science with Manfred Weller at the Max Planck Inst. in Stuttgart. Last June, Charlie and Andy Granata organized a conference on internal friction and ultrasonic attenuation in solids, the eighth in a series dating back to 1956.

BIRNBAUM HONORED

Howard Birnbaum was chosen to receive the Robert F Mehl Award and deliver the Institute of Metal Lecture last March. This recognition by The Metallurgical Society was established in 1921 by the Institute of Metals Division to honor annually an outstanding scientific leader in metals science application

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Sanak Mishra, PhD '73, research manager, product development for Hindustan Steel in Bihar, India, visited us last Spring and gave a talk on grain-oriented steel. Sanak was in the country for an AIME meeting and for plant visits.

Myung-Hwan Kim, '73 MS '75, is now living at 124 S. Gramcery Pl, 209, Los Angeles 90004, and is working for a Korean newspaper company.

Ed Cox, '73, with a partner, has opened up a laboratory, Materials Analysis, Inc., at 10338 Miller Rd, Dallas, TX 75238. They specialize in materials characterization, product development, failure analysis, and litigation consultation. Their lab includes such capabilities as a JEOL T-300 SEM, ARL 3520 Spectrometer, and other conventional testing and examination equipment.

Andrew Yen, PhD '74, is with IBM-San Jose and lives at 6970 Grandwood Way, San Jose, CA 95120. Andrew was invited to join a delegation visiting Europe last year as a "People-to-people citizen ambassador."

Lance Labun, PhD '76, and Pat (Birnbaum), MS '76, had a busy October: Lance Andrew was born Oct. 1, and Lance started a new assignment with GE as manager-quality assurance and product engineering for the Chemical Product Operation of the Lighting Business Group. The Labuns seem to be taking these changes in stride, and Pat is now debating when or if to go back to work.

Tom Bond, '77, MS '78, has resigned his position at Caterpillar, and has joined the family business dealing with industrial pumps. He is able to use his metallurgy when dealing with applications involving corrosive and abrasive environments. Tom is still working on his MBA at Chicago, and the family is growing—Number 3 expected in June.

Jim Laverick, MS '79, was named a senior process engineer at Timken's research facility in Canton, Ohio. Jim has been with Timken three years following three years at Amsted Research.

Mark Gorman, '80, has left Armco and has joined GE's aircraft engine operation in Evandale, Ohio.

Pat Lenahan, PhD '80, has resigned from Sandia Lab in New Mexico, and has joined the academic ranks as Assoc Prof in Penn State's Department of Engineering Science and Engineering.

Roberto de Avillez, PhD '81, is assistant professor at the Catholic University of Rio de Janeiro, and reports his new address: Pontificia Universidade Catolica, DCMM, Cx P 38008, 22452-Rio de Janeiro, RJ, Brazil.

Dai-Young Jung, PhD '83, is with IBM in Endicott, NY and has just received an award worth $5000 for his contribution to packaging technology. Jung recently received his third promotion during his short career at IBM, and is now Development Engineer-Manager.

Ron Knapp, '83, has begun an MBA degree in Michigan's night program while continuing his work at GM's BOC Detroit. Ron says that Ed Becker, MS '83, was a recipient of a GM Fellowship award, and began a masters program at Michigan-Ann Arbor.

Scott Delaney, '83, has reported on behalf of the department alumni at Motorola in Phoenix. Scott's present responsibility is a rectifier die test area. Joe Ommen, '82, is working on electronic package development; Jim Heckman, '84, is a metallization process engineer in the power transistor wafer area; Kevin Lorenzen, '83, is a production supervisor and process engineer for diffusion, photoresist, and metallization in the RF transistor wafer area; Kent Yancik, '84, is a process engineer in the thyristor wafer area, and Kim Bertagnolli, '83, is now in the failure analysis lab that serves all of Motorola. Scott has given us some useful feedback on the effectiveness of the curriculum in preparing for careers in the electronic materials area in particular.

Sue Straznickas, '84, was back on campus to help recruiting efforts for Arco Resources and Technology. Sue is associate materials engineer. Her training period with Arco was "fantastic", and included many interesting assignments, courses of instruction, off-shore work, and corrosion-erosion studies in Prudhoe Bay, Alaska. Sue's address is 9030 Markville Dr, 2833, Dallas TX 75243.

Jeff Fergus, '84, has started graduate studies at Pennsylvania, and took time during finals to drop a line. Clearance for his Los Alamos "summer" job came through finally in August, but Los Alamos has offered Jeff a few weeks of work over Christmas break, which was accepted. Jeff's address is Box 261, 3050 Chestnut St, Philadelphia, PA 19104.

Ducky Sherwood, '84, after a summer vacation touring Europe, has settled down at 350 N. Lantana, 315, Camarillo, CA 93010. Ducky now is with Vitesse Electronics, and spent her second week on the job on a recruiting trip to Urbana.

Phil Koushanpour, '84, is working at Hughes' Torrance Research Center, and is working on GaAs device development. Phil is planning to continue graduate study at USC under the Hughes Fellowship program.

Jane Nealis, '85, is enjoying the training program phase of her job with General Electric in San Jose, and reports her new address: 4200 The Woods Dr, B236, San Jose, CA 95136. Jane is on the Adv Engineering Program of the Nuclear Energy Business Operations, and her training includes an MS program at Berkeley.

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of metals program areas. Howard's lecture was entitled "Environmentally Related Fracture: Hydrogen Chimera or Reality?" Howard, together with Ian Robertson, received the 1984 US Dept of Energy Award for Research Accomplishment in Metals and Ceramics, in recognition of their joint research on hydrogen embrittlement mechanisms.

Norm Peterson was elected Fellow of the American Ceramic Society this year, as well as becoming sectreas of the Materials Physics program of the American Phsycial Society.

Donations of surplus equipment were received during the year from Caterpillar and McDonnell-Douglas, thanks to the alertness and thoughtfulness of Dean Biehler and Larry Hayes, resp.

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