

# NEWSLETTER

## Materials Science and Engineering

University of Illinois at Urbana-Champaign

March 1989

### NEW LEADERS FOR COLLEGE, DEPARTMENT

Dr. James Economy began his tenure as Head of the Materials Science and Engineering Department on Feb. 1. Jim had accepted the headship last August, and since then has visited the campus several times to initiate programs and get acquainted while completing his responsibilities as head of the polymers research group at IBM Almaden Lab in San Jose, CA. He is not new to the campus, having spent a post doctoral period here in the mid-50's. Jim has experience in a wide range of materials, and has impressed the faculty already with his quick grasp of the needs and potentials of the divisions of the department. His energetic leadership and decisiveness are critical in these formative times of the department as we deal with the problems of curriculum, space, resources, student recruitment, and interaction among the faculties of the different divisions. Dr. Economy's greetings to the alumni are on this page.

We also have a new dean, William Schowalter. He also is familiar with Urbana, having received his PhD in chemical engineering here in 1957. He is a distinguished figure in education and engineering (a member of the National Academy of Engineering). We are fortunate to have found such outstanding leaders for the department and the college.

### Summer Workshop For HS Teachers

One of Dr. Economy's first actions in the department as he considered the problem of undergraduate enrollment and the need to bring an understanding of materials to prospective students was to facilitate the presentation of a summer workshop on materials for high school science teachers. He has persuaded Prof Bohl to organize the workshop, which will be given the week of June 26 in Urbana. The program is being developed to give the teachers an understanding of the importance of materials and the opportunities it offers their students as they

### Greetings From Jim Economy, New Department Head

I am very pleased to finally be aboard. The very positive reception I have received from the faculty, students, and administration augers well for the future. The challenges which face us are particularly exciting as we plan our programs to address the needs of the immediate and more distant future. An important goal that we face is bringing an educational program at the undergraduate and graduate level which integrates the key features of advanced materials but still provides the student with fundamentals of metals, ceramics, and polymers.

The electronic materials division affords a unique opportunity for collaborative efforts in our department, since progress here depends on strong interactions between metallurgists,

ceramists and polymer scientists especially in addressing the problems of surfaces and interfaces.

I look forward to establishing much stronger ties with the other departments in the Engineering College, since it is clear that progress in the areas of civil, electrical, mechanical, aeronautical, etc will depend on the design of new or improved materials. Our ability to educate scientists and engineers who can cut across their traditional boundaries is especially critical and represents a challenge to the entire College. I look forward to meeting each of you in the near future and would welcome any comments or suggestions.

-- Jim Economy

### Annual Alumni Meeting In Chicago: Next Year, Indianapolis

Over 100 alumni and friends met last September in Chicago in conjunction with the World Materials Congress. As usual, it was a chance to meet old friends among the faculty and alumni, catch up on the latest news from the campus, exchange reminiscences of campus days, and honor outstanding alumni. Bill Heitmann, '53, PhD '61, was presented the Alumni Association's Loyalty Award for his continued interest in the department and outstanding contributions to the department's Alumni Constituency, which he serves as a member of the Board of Directors. Frank Fradin, PhD '67, was presented the department's Distinguished Merit Award. Frank is Associate Laboratory Director for

Physical Research at Argonne National Laboratory, and particularly known for his contributions to research in superconductivity and NMR.

Next year's meeting will be held during the Materials Week, October 2-5 in Indianapolis. This central location should make it convenient for the participation of a large number of our alumni. Details of the time of our reception and meeting will be announced later in the year.

### College Events For Alumni For Fall

The College of Engineering has initiated sponsorship of an annual Tent Party in conjunction with a Fall football game. Last year, Ray McGaughey, '48, Ed Hack, '50, Dick Ausfahl, '50, and Bernt Iversen, '51 attended. This Fall, the Tent Party will be October 7 (Purdue); if you don't hear from the College by early Fall, call them to make reservations. While you're marking your calendars, homecoming next Fall will be October 28 (Wisconsin).

consider careers in engineering and science. The workshop will also provide teachers with materials and ideas on how to incorporate information on materials in their chemistry and physics courses at the high school level. The attendees will have their expenses fully covered, as well as tuition costs paid. If you are acquainted with a local high school teacher whom you think might be interested, ask them to write Prof Bohl for further information.

# DEPARTMENT NEWS

## New Staff

John Abelson has accepted a tenure-track position in the Electronic Materials Division of the department as assistant professor. John has been a visiting asst prof in the Coordinated Science Lab this past year. John received his BS from Yale and his PhD in materials science and engineering from Stanford in 1987. His experience includes a post-doctoral year at Stanford, a year as visiting scientist at Ecole Polytechnique in Paris, and as a consultant to the electronics industry. His research interests are novel growth methods for thin film electronic materials and advanced characterization techniques. John also will continue the development of classroom and lab courses in electronic materials.

James Adams will join us next August as assistant professor in the Metals Division. Jim took his BS from Duke in physics and finished his PhD in materials science at Wisconsin. Since then he has been a post doc at Sandia's theoretical division of physical sciences. John is a theorist specializing in numerical models of atomistic-level phenomena.

Both men have already achieved wide recognition for their excellent work, and we are pleased to have such quality additions to our faculty.

## T. A. READ LECTURE

Last Fall, Dr Frank Nabarro presented the distinguished T. A. Read Lecture. His presentation was entitled "Strong Metals: A Fifty Year Dance of Science and Technology." Dr Nabarro is a pioneer contributor to our understanding of dislocations and their role in deformation of solids. The lecture is presented periodically in honor of Thomas Read, former head of the department and a leader in the study of martensitic transformations.

## Award Honors Thornton

The American Vacuum Society has established the John A Thornton Memorial Award and Lecture to honor the memory of our late staff member and his singular contributions to science, the generation and study of thin films, his effectiveness as an educator, and his unflinching humility. The award is a \$5000 prize, a plaque and an hon-

orary lectureship, and will be granted annually or biennially. The award is funded by an endowment established by Joy Thornton, AVS Chapters, and individual donations. Candidates for the award shall have made a pioneering contribution to the science or technology of thin films, plasma processing, or related fields that advanced the state of knowledge or the art to a significant and well-recognized extent.

## Geil On Sabbatical

Phil Geil has spent a three-month sabbatical this Spring at Kyoto Univ in Japan. In his absence, Richard Gaylord, after spending yet another summer in England at Cambridge Univ, served as chair of the Polymer Division.

## Reza Shines in Florida

Reza Abbaschian, onetime staff member here, is doing very well as the head of the department of Materials Science at the Univ of Florida. Under his leadership, the department is prospering with a very active student body and research in many areas of materials science and engineering.

## Carl Visits Far East

Carl Altstetter visited the Peoples' Republic of China last June. He attended the Fourth International Conference on Hydrogen in Materials in Beijing. While in Beijing he visited Tsinghua University and the University of Science and Technology, where he lectured on his research on hydrogen in metals. It wasn't all work, though, since he and Mrs. Altstetter also visited some of the popular tourist spots. On their return trip, they stopped in Seoul to visit Prof. and Mrs. Jong-Wan Park, PhD '85. Jong-Wan is a faculty member in the Metallurgical Engineering Department of Hanyang University. Their final stop in California allowed them to visit Jen Steven Lee, PhD '84, who works at the Lockheed Research Laboratory in Palo Alto. Jen and his wife, Jah-Li had their second child in the past year.

## Paul Beck Recovering

Paul Beck has almost completely recovered from serious and painful injuries suffered when he was struck by a car last October. Paul, who celebrated his 80th birthday this year, was back at his office

anxiously ready to resume working, after reluctantly serving a minimum period to let his shattered bones knit together.

## More Honors For Birnbaum

Howard Birnbaum has been awarded the 1988 Department of Energy Prize for sustained excellence in Research in ceramics and metallurgy. The prize includes a \$40,000 grant for support of his research in the Materials Research Lab. As you know, Howard now shares his appointment between the department and as Director of MRL. The MRL, in cooperation with CSL and the ERC, has developed a 7 MBE growth chamber in a common UHV vacuum system with accompanying characterization instrumentation. Howard, together with Ian Robertson, has also developed an environmental chamber TEM for the use of MRL researchers. Howard was also honored by being named a Fellow of ASM last September. Joining Howard in this latest class of Fellows were Jim Lankford, PhD '69, at Southwest Research Institute, San Antonio, for his work on failure mechanisms in metals and ceramics, and Richard Waterstrat, '61. Dick is at the Dental Association Health Foundation at NIST, and recognized for his work on dental materials.

## Ju Is At SIU

C. P. Ju, who was here as a research associate with Profs Chen and Rigsbee, is now employed as a research scientist with the Center for Materials Research, Southern Ill Univ.

## TAP's On Leave

T. A. Parthasarathy (TAP) has taken a leave of absence in order to work at the Air Force Research Lab at Wright Field in Dayton, Ohio. On Jan. 1, the size of the family increased by 50% as Shubha gave birth to a baby girl. TAP was an outstanding teacher with excellent rapport with students, as well as a productive researcher, and we hope he will return to us upon the completion of his leave.

## Mike Has NSF Year

J. M. Rigsbee is spending the 88-89 academic year in Washington at the National Science Foundation in (continued on page 4)



# ALUMNI NEWS

Clyde Smith, '33, and Matt Retonde, '38, and their wives attended the College's Alumni Reunion held last June. The Retondes now live in Leawood, KS and the Smiths in Herculaneum, MO. Watch for news of this annual event from the College.

Harry Czyzewski, '41 MS '50, has been invited to give a paper in Vienna this summer at an International Conference of Structural Failure, Product Liability and Technical Insurance. Harry retired from MEI-Charlton Lab in Portland (which he founded in 1946) and is now maintaining a leisurely pace of consulting as Oregon Technical Services Center. The president of MEI-Charlton is Durgam Chakrapani, PhD '75, who joined the firm in 1976.

Stan Paprocki, '46 MS '48, has retired as president of Materials Concepts, Inc in Columbus. Stan had a long successful career at Battelle Institute before resigning in 1975 to set up his own company which grew from a desk in the basement of his home to a highly successful producer and innovative company in composite materials.

Sam Leber, '48 MS '49, has retired from GE's tungsten plant in Cleveland, and has moved into a beautiful new home on the East side: 2495 Deborah Dr, Beachwood, OH 44122.

Ray McGaughey, '48, retired from GTE's Northlake plant in 1986, and has since been moderately involved in consulting. Ray points out that his name is on the moon: on a microfilm list of people who made special contributions to the Apollo program. When Ray was with Elgin, he helped develop timing equipment for the Command Module and the LEM.

Joe Selle, '48, operates Selle Alloys and Equipment Co, P.O. Box 66530, Houston, TX 77266.

Harry Turner, '49 MS '51, has retired from his position as chief metallurgist for McDonnell-Douglas's St Louis plant. He passed on the sad news that his classmate, Bill Hensley died in 1987.

Keith Lampson, '49, visited us last year to discuss an alloy development program with Prof Wayman. Keith is director of materials engineering at Marquardt in Van Nuys, CA, and has been a faithful correspondent and unofficial advisor over the years with his views on life and metallurgy.

Stuart Rice, '50, died suddenly last August 28 in Morton, IL. Stu retired from Caterpillar six years ago, and had

previously worked for Elgin Watch and the Santa Fe. He has received numerous honors and recognitions for his contributions to metallurgy.

Don Dyke, '50, is senior vice president of Sintered Specialties Division of SSI Technologies Inc in Janesville, WI. Don has been very active in professional activities and ASM affairs, and is widely known for his contributions to product developments in the powder metallurgy industry.

Vito Mitkus, '52, is now a materials engineer at the Naval Avionics Center in Indianapolis. Vito is the NAC representative with a superconductivity joint effort with Notre Dame and Purdue. Vito for some time has been teaching ASM-MEI and vocational metallurgy courses, an experience he finds especially rewarding. His new address is 11552 Springway Dr, Carmel, IN 46032.

Dr David Shewmon, son of Paul Shewmon, '52, has joined the staff of Carle Hospital in Urbana, where his special area of interest is control of blood cholesterol. Paul is still at Ohio State, and has rotated out of administrative chores and has more time for research and teaching.

Bill Bond, '53, has retired from Bell Helicopter and can now be found changing money on the beaches of the Cayman Islands.

Dick Gaydos, '53, who retired as chief metallurgist for LTV Steel a few years ago, is now technical director-quality assurance for Lucas Aerospace in Maple Heights, OH when he's not busy as commodore of the power squadron out of Vermilion, Ohio or taking the walleye out of Lake Erie.

Our alumni are well-represented on ASM committees announced for 1988-89: Harold Gegel, '55, was appointed chairman of Awards Policy; Ron Gibala, PhD '65, Chairman of Constitution committee; W. C. Red Couts, '54, Chairman of Technical Divisions Board; and Bill Becker, '57 PhD '66, was reappointed chairman of the Materials Engineering Institute Council.

George Eadie, MS '56, received the 1988 Distinguished Member Award of the Society of Mining Engineers. A former faculty member here, George most recently was on the faculty at Indiana State Univ, but has now retired to Eldorado where he does some consulting and manages the family's property.

Lyle Jacobs, '57, is president of the consulting firm Taussig Associates, and was recently featured in a Chicago Tribune feature dealing with career opportunities in metallurgy.

Dale Holloman, '58, is president of Deminex US Oil in Dallas. Dale began his career as a field petroleum engineer with Texaco before joining Deminex. Dale retired in 1984 as a Colonel, USAR, and was recently inducted into the Army's Infantry Hall of Fame in Ft Benning, GA.

Ed Starke, MS '61, who is Oglesby professor and dean, School of Engineering at the Univ of Virginia, was invited to give the annual Alpha Sigma Mu Lecture at the Fall WMC in Chicago. Ed's topic was aluminum alloys for aerospace.

Ed Van Reuth, PhD '64, is president of Technology Strategies, Inc, 10722 Shingle Oak Ct, Burke, VA 22015.

Dave Franklin, '65 PhD '70, is now with Bettis Atomic Power in W. Mifflin, PA as manager of core materials development and analysis. Dave had previously been with EPRI in Palo Alto, CA.

Michael Rehtin, '66, (and son-in-law of Lowell Lloyd '44) has joined the firm of Reinhard, Boerner, Van Deuren, Norris & Rieselbach in Oak Brook. Mike received his PhD from MIT and his JD from IIT-Kent College of Law. Mike has worked in the patent law field for DOE and Amoco prior to his current affiliation, where he is managing shareholder of the intellectual property department (some lawyer could probably tell you what that is).

Larry Happ, '68, visited last year while in town solving a corrosion problem for the local Kraft plant. Larry has had a long career in the areas of welding, corrosion, and forming, and has been with APV Crepaco, Lake Mills, WI since 1981. They are manufacturers of processing equipment, mostly for the food industry. When he was superintendent of plant operations, he talked too much about marketing, so was made product manager. Larry lives at W5302 Biederman Dr, Johnson Creek, WI 53038.

Moinuddin Rashid, PhD '69, is head of metallurgy at GM Research Lab, and received the C. L. McCuen Special Achievement Award from GM for his development of a new low-melting zinc alloy for dies. Rashid has previously been recognized for his development of formable high strength low alloy steels.

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## MORE ALUMNI NEWS

Sanak Mishra, PhD '73, is now principal manager in charge of the product development division of the Steel Authority of India at Ranchi 834002, Bihar India. He writes that last November he received the National Metallurgist Award from the Minister of Steel and Mines. We are pleased that Sanak's talents are well-known and much appreciated in India.

Jim Burk, '73 PhD '78, has a new address: 639 Diamond Leaf Lane, Houston, TX 77079.

Ron Larson, '74 MS '76, is manager of engineering operations for Marison Company in So. Elgin, IL. Marison makes compressed gas cylinders.

Gene Sheldon, '74 MS '78, is chief metallurgist for Olin Brass's operations in Waterbury, CT.

Steve Jenkel, '82, is a materials engineer for United Technologies in their mechanics of materials and structures engineering division in West Palm Beach, Florida. Steve was in Urbana recently on a recruiting trip.

David Kleine, '83, and Paul Knoke, '86, gave presentations at the Students' annual Careers Night program last Spring. David is at McDonnell-Douglas Electronics in St Louis, and Paul is with Disk-Tec in Champaign. Eric Schlinger, a graduate student discussed the opportunities of graduate school. Eric is now finishing his PhD research in California with Retech on processing of materials and computer simulation of processing.

Brian Booth, '84, is stationed in San Diego serving as chemistry and radiological controls officer aboard the nuclear-powered sub USS DRUM.

Brian invites his '84 classmates to crash at his place: Apt 302, 3833 Ingraham St, San Diego, CA 92109.

John Klepeisz, '84, is now at Hampton, VA and working with large structural titanium castings. His address is 156 Nottingham Trail, Newport News, VA 23602.

Ducky Sherwood, '84, has moved again, but hasn't left California yet, and is still in the electronic materials industry. She is now with Arix Corp, 880 Fox Lane, San Jose, CA 95161, and gets her mail at P.O. Box 612612, San Jose, CA 95161.

Tom Little, '84 MS '87, spent the 87-88 year in Japan as an English teacher in the Japan Exchange Teachers program. Last September, Tom took a position in Japan with Seiko-Epson, where his primary responsibility is the development of colored liquid crystal displays for TV or computer monitors. He is considering an off-campus doctoral thesis with Prof Chen while still in Japan.

Mike Van Maldegiam, '84, has completed his graduate degree at Michigan Tech, and is now at USX-Gary in the Quality Assurance Dept. His address is: 9467 Hampton Dr, No. 26, Highland, IN 46322.

Jimmy C. M. Wang, PhD '85, was recently promoted to division manager in charge of R & D of functional materials (e.g., advanced ceramics, composites, high  $T_c$  superconductors) for the Materials Lab, Industrial Technology Research Inst, Taiwan.

Renata Schillmoeller, '86, is working for Watkins-Johnson in Palo Alto as a process engineer involved in manufacturing as well as R & D. Renata is enrolled in Santa Clara's MBA program.

## DEPARTMENT NEWS (cont'd)

the Division of Materials Research where he is serving as Program Director in the Metallurgy Program and Acting Program Director in the Ceramics and Electronics Materials Program. His job involves interacting with the research programs of Universities and Institutes across the country in a wide range of metals and ceramics topics. Mike has made frequent visits to the campus to keep abreast of his students' research. We recognize this is an important activity and are pleased Mike was given this responsibility, but we still are looking forward to his return in the Fall.

## Marv Gives Invited Talks

Marvin Wayman will collect more than a few frequent flier miles this coming year as a result of being invited to give papers at a series of important meetings on the other side of the world. This month, Marvin has been invited by the National Science Council of the Republic of China to visit Taiwan for a series of three lectures. Marv will speak on martensite microstructures and shape memory materials. This lectureship has been established to bring renown scholars and scientists to Taiwan. En route, he will give a lecture at the Korea Advance Institute for Science and Technology. In July, Marv has been invited to give the Conference Address at the International Conference on Martensitic Transformations in Sydney, Australia. In November, Marvin goes to Japan to give the keynote lecture on shape memory metals at the first Japan International SAMPE (Society for the Advancement of Materials and Processing Engineering) Symposium.

Are you  
a member  
of the  
Alumni  
Association  
?

More than 103,000 alumni are—including approximately 60,000 who are life members. As a member you'll receive the Illinois Alumni News or U of I Chicagoan, as well as publications of your college or departmental constituent association. You'll qualify for our tour program, our insurance program and the annual family camp. And you'll continue your loyal involvement with something great—your University of Illinois.

To join, either as an annual member or as a life member, return this form with your check to: Alumni Association, 227 Illini Union, 1401 West Green Street, Urbana, Illinois, 61801. (Make your check payable to the University of Illinois Alumni Association.)

- One year single membership—\$20       One year husband-wife—\$25  
 SINGLE LIFE MEMBERSHIP—\$200. (INSTALLMENT PLAN: \$220—\$10 DOWN, FOUR YEARLY PAYMENTS OF \$52.50.)  
 HUSBAND-WIFE LIFE MEMBERSHIP—\$225. (INSTALLMENT PLAN: \$245—\$10 DOWN, FOUR YEARLY PAYMENTS OF \$58.75.)

Name \_\_\_\_\_ S.S.# \_\_\_\_\_

Spouse's name (if an alumnus) \_\_\_\_\_

If female, list maiden name. Does spouse have a U. of I. degree? \_\_\_\_\_

Address \_\_\_\_\_

College & dept. \_\_\_\_\_ College yr. \_\_\_\_\_