

NEWS-LETTER

UNIVERSITY OF ILLINOIS

Department of Mining and Metallurgical Engineering Alumni

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COLLEGE ENROLLMENT DROPS OFF

We are finding it difficult to keep pace with the manpower experts and vocational advisors who have alternately been forecasting surpluses and shortages of graduate engineers. A few years ago, students were advised away from engineering, and now there is concern again over a possible shortage of college trained engineers. Through these cycles, graduates in the mineral industries field have had but little trouble in securing jobs after graduation, and we are proud of that record.

Here at Illinois, enrollment in the engineering college is down considerably from the postwar maximum. There appear to be several explanations for this: the pessimistic job outlook of the past few years, the graduation of most of the GI Bill students, the present draft taking many potential students as they graduate from

high school, and the low birth rate in the early '30's which has resulted in a decrease in the number of men in the college student age level.

In spite of the general decrease, departmental enrollment has held up quite well. Although the department enrollment is off 13 per cent from last year, this figure compares favorably with the overall college of engineering drop of 27 per cent. The exact enrollment figures are:

	Fall '49	Fall '50
Min -----	96	79
Met -----	116	106
Total -----	212	185
College -----	3034	2205

The figures can be interpreted as an indication of increased interest and confidence in opportunities in the fields of mining and metallurgy.

Valuable Seminar Lectures Presented

An especially interesting series of lectures in the Physical Metallurgy Colloquium program has been presented since the last description of lectures in the News-Letter. The presence of Dr. Frederick Seitz on the campus, and the formation of the group for the study of metals in this department has drawn a number of highly regarded personalities in the field to Illinois, and many of these men have presented talks to joint physics and physical metallurgy groups.

The program of last spring included Dr. W. A. Mudge, Director of Technical Services on Mill Products, International Nickel Co., on "The Physical Metallurgy of Nickel and High Nickel Alloys"; Mr. John Marx, Carnegie Inst. of Technology, on "Internal Friction in Single Crystals of Metals"; Dr. Clarence Zener, Inst. for the Study of Metals, on "Slip Bands versus Dislocations" and "Applications of the Statistical Theory of Atoms in Metals"; Prof. A. H. Cottrell, Univ. of Birmingham, England, on

a theory of the mechanism of steady state creep embracing the equality of strain hardening and softening due to recovery; and Prof. Dehlinger, Stuttgart, Germany, on "New Experiments in the Plastics Flow of Single Crystals."

This fall's program has already included a number of excellent lectures: Dr. Wert on "The Magnetic Coercive Force of Iron"; G. M. Sinclair, Res. Assoc. in TAM on "Some Effects of Austenite Grain Sizes and Metallurgical Structure on the Mechanical Properties of Steel"; Dr. David Lazarus, Physics Dept. on "Diffusion Phenomena in Metals"; Dr. Mudge on "High Temperature Alloys"; Dr. Marx on "Recrystallization of Single Crystals of Lead"; Dr. N. F. Mott, H. H. Wills Physical Lab., Univ. of Bristol, England, on "Theories of Plastic Behavior of Metals", with regard to dislocations and creep in hard technical alloys; and R. M. Brodnick, graduate student in metallurgy on "Studies of Cracking in Railway Car Wheels."

Miners and Mets Take Field Trips

This fall, for the first time since before the war, all engineering departments made senior class inspection trips to industrial areas. Twenty-eight senior metallurgists, accompanied by Profs. Ricketts and Bohl, spent three days in Chicago, Nov. 1-3, visiting the Gary Works of Carnegie-Illinois Steel Co., American Steel and Wire at Joliet, McCook Works of the Reynolds Metals Co., the Tractor Works of International Harvester Co., and the Crane Company plant.

Very favorable mutual impressions were made at each plant. Those of the alumni who have made similar trips in the past know the value of these trips in emphasizing areas of interest beyond the scope of the classroom.

It was a pleasure to meet and be guided through the American Steel and Wire and Reynolds plants by graduates of the department; Ed Rinehart '43 and Ralph Herzler '40, respectively.

As a commentary on the conduct of the group, it should be stated that no tardiness, absences, or casualties due to industrial or downtown Chicago hazards were incurred.

The seniors in mining did a bit more traveling in inspecting a variety of mining operations. The group inspected underground workings and preparation plants of the St. Joseph Lead Co., Flat River, Mo., fluorspar mine of the Aluminum Co. of America at Rosiclare, Ill., and the mines of the C. W. and F. Coal Co. at W. Frankfort. At Waltonville, the miners saw the largest conveyor belt in the world, and construction on a new preparation plant.

At Benton, the group was invited to attend a meeting of the Mining Electrical Group of Southern Illinois. The seniors were introduced at the meeting, and Prof. Clark gave a short talk on the aims of the educational program of the department. Accompanying the group on the trip were Profs. Clark and Wuerker.

SKETCHES OF THE FACULTY

This opportunity is taken to introduce two new members of the staff who took up their duties this fall. These men will devote the major portion of their energies toward research in physical metallurgy, but also anticipate organizing metallurgy courses in more advanced topics in physics and physical metallurgy.

CHARLES A. WERT

Appointed Associate Professor in Physical Metallurgy was Charles A. Wert, recently from the University of Chicago Institute for the Study of Metals. Prof. Wert is a small town boy, born in Battle Creek, Iowa, in 1919, and did his undergraduate work at Morningside College, Sioux City, Iowa. He majored in physics and intended to teach high school physics, but on taking his B.A. in 1941, felt he would be financially ahead by accepting an assistantship at the Univ. of Iowa paying \$45 monthly. He received his M.S. in 1943 in physics, doing a thesis on thermal expansion properties of zinc single crystals.

From 1943 to 1946 he did research in radar control of anti-aircraft fire at the Radiations Lab. at M.I.T. Prof. Wert then returned to Iowa, and received his Ph.D. in physics in 1948, doing his research on internal friction of single crystals. His most recent position was working with Zener at Chicago on internal friction measurements applied to quench aging and other problems of carbon and nitrogen in iron.

Charles was married in 1942. He met his wife at Morningside College, where he was a laboratory assistant and she a pupil of his. Charles has many interests and hobbies; among them woodworking, photography, and watching baseball, football, and other sports events.

The work Dr. Wert plans at Illinois is guided by his desire to apply the equipment and experimental techniques of the physicist to the metallurgist's problems. He hopes to be able to resolve metallurgical phenomena in terms of the atomistic scale. Although his training is in physics, Dr. Wert has shown a wide knowledge of the field of metallurgy. He has little tolerance for the attitude of physicists who do not appreciate the engineering approach to problems in metallurgy. The department is fortunate to have a man of Dr. Wert's capabilities acting as liaison be-

tween physics and physical metallurgy.

JOHN MARX

The second man added to the staff in the physical metallurgy program is Asst. Professor John Marx. Born in Chicago in 1917, he grew up in Oshkosh, Wis., where he attended Wisconsin State College for five semesters, majoring in organic chemistry. At that time, he took employment with a chemical company, working with plastics and terpenes. A problem John worked on here was the manufacture of eucalyptol oil from pine oil. Following this, Prof. Marx held a position as assistant metallurgist at the Wisconsin Axle Co., a subsidiary of Timken.

In June of 1941, John enlisted in the Civilian Technical Corps, organized in Canada for service in England. He was sent to McGill University in Toronto for training, but was returned to the U.S. after Pearl Harbor, and given a job as chemist at the Trojan Powder Co. in Sandusky, Ohio. After a year, like so many others, he was chosen by his neighbors to become a private in the Army of the U.S. The Army sent him to school at Texas A.&M., and to Purdue for a course in advanced E.E., then to the Signal Corps School at Ft. Monmouth, N. J., for radio link and carrier and repeater courses. He became part of the newly organized 10th Army, and was sent to Hawaii and the South Pacific, taking part in the Okinawa invasion. From here he was part of a team sent to Korea to establish a radio link system.

Upon his discharge in January, 1946, he returned to Wis. State College and finally received his B.S. degree in chemistry. Following this, he enrolled at Carnegie Tech, and anticipates receiving his master's and doctor's degree in physics this spring. His research at Carnegie involved measurement of internal friction and elastic constants of lead and copper single crystals as functions of amplitude of vibration and impurity contents, with hydrogen and iron as impurities.

John married his college sweetheart in June, 1941, at the time of his enlistment in the Civilian Tech. Corps. Men in this program could only send money to their wives, and this rule provided the impetus John and his fiancée needed to seek out the preacher. John's chief

Frederick Wins AIME Technical Paper Award

It is beginning to become a habit to report students in the department taking honors in the AIME student technical paper competition. The most recent to win was Philip H. Frederick, Met. '50, who took first place in the undergraduate division of the Chicago Section competition. Phil did his work under Prof. Czyzewski on techniques of casting stainless steel. The title of his paper was "Casting Stainless Steel Tensile Bars in Ceramic Molds."

The project was carried out in cooperation with the Ceramics department, who made the molds and carried out simultaneous studies of mold and metal surface conditions.

Conference Called Off

The ninth biannual Conference on Coal Utilization which was to have been held on the campus Sept. 7 and 8 was cancelled this year due to the difficulty in securing speakers for the sessions. Many speakers who had intended to be present found it necessary to cancel their commitments on account of uncertainties in the international situation.

Prof. Walker has worked hard organizing these conferences, and those interested in the field have regarded the value of the meetings highly. It has been a disappointment to all concerned that this year's meeting was unavoidably cancelled.

recreation is making recordings, with equipment he has partially constructed himself. When asked to name his particular non-academic interests, he promptly enumerated movies, Chesterfields, and beer.

Projects John has initiated since his arrival this fall are concerned with the recrystallization of lead, and the measurement of the time required for slip bands to form in shearing single crystals of lead. Future programs planned are the design of equipment for and measurement of the effects of impurities, deformations, etc. on internal friction by non-resonant methods.

Like Prof. Wert, John has an extremely pleasant personality and is interested in all activities in the department. We are all awaiting with keen interest the contributions of both Profs. Wert and Marx to the department's program of research in physical metallurgy.

NEWS OF THE ALUMNI

Walt Kilimnick, Met. '40, writes from the west coast, where he is alloy specialist directing sales and contact metallurgist with U. S. Steel Supply Co., that he regrets being unable to attend the alumni get-togethers that we in the east enjoy. However, he has some compensation in the well-advertised California climate, and in 8-months-old, 22 lb (when Walt wrote last spring) Randy—the pride and joy.

Latest (the third now) to complete his preliminary exams for the doctorate degree in metallurgy is H. P. Leighly '48. Phil has accepted a fellowship from the Olin Industries for research in titanium for his thesis problem.

Those attending the Metals Show in Chicago last month may have seen that Bill Craig, Met. '41, now with the T.&A.M. Dept. here in Urbana, won an honorable mention in the metallographic exhibit with some excellent electron microscope photomicrographs. Bill has mastered that difficult technique and has been photographing some very interesting structures in cartridge brass.

Joe Selle, Met. '48, reports a big change in environment—from Ohio to Houston, Texas, where he is sales and service engineer for Ohio Steel Foundry. His address there is 4219 Yoakum street. Joe says to expect him in boots and a ten gallon hat when he gets north again.

Our faithful correspondent Charles Boley, Min. '35, sent a card with a change in address which also connotes a big change in scenery: APO No. 500, San Francisco. Chuck was Director of Mineral Resources Lab., State of Wyoming. His new job will be in Japan, acting as technical consultant to Gen. MacArthur's staff, concerned with coal beneficiation. Some of Chuck's friends may not know that he received his Ph.D. in mining from the University in 1941.

Resat Aynoglu, who took his master's degree in metallurgy here last year, has returned to Turkey and is working at the Kirikkale Gun Plant. At the same plant is Nevzat Erkun, who also received his M.S. here in 1949.



J. H. SETINSKI

Received just after publication of the Spring News-Letter was word of the election of Mr. J. H. Setinski, Min. '24, as a vice president of the Flintkote Company. In this capacity, he will direct manufacturing activities of the company. He has had varied experience in the building materials industry since his graduation, and has been with Flintkote since 1944. Our sincerest congratulations!

Edward Grable, Min. '33, now a commander in the U. S. Navy, has reported in from the long-lost category. After five years with the Peabody Coal Co., he volunteered for Navy service in 1940, and saw quite a bit of the Pacific in subsequent years. He took his M.S. at Rensselaer Poly. Inst. in June '49, and is now Asst. PWO at Boston Naval Shipyard.

From way back to the class of '94 comes a letter from J. J. Rutledge, now chief consultant of the Maryland Bureau of Mines. John Widener, Min. '24, occupies an office in the same building as Mr. Rutledge, and the two had been passing each other for several years before discovering their mutual alma mater.

Single men in the graduate school are becoming a rarity. The latest taking the plunge was Harry Turner, Met. '49, who married Miss Donna Jean Williams in Champaign last June 12. Harry is half-time assistant in research and working for

his master's degree. The bride and groom were given an appropriate send-off by their friends in the graduate school.

We noticed in a recent issue of Metals Progress that Arnold Litman, Met. '46, has been appointed chief metallurgist of the Union Wire Rope Corp. of Kansas City, Mo. Is there any truth in that, Arnie?

NEW ARRIVALS

We have been notified of additional activity in extra-curricular fields since our last publication, with the result that there are at least six newly proud parents numbered among the alumni. In the order of occurrence: Morris Wolin '47, a boy, April 10; D. R. Burnett '50, a girl, May 17; Dick Wilde '40, a boy, May 23; T. S. Noggle '48, a girl, Aug. 6; R. W. Bohl '46, a girl, Aug. 14; and Ross Mayfield '42, a boy, Oct. 1.

ALUMNI VISITORS

We are always glad to see alumni who are in the vicinity for some reason or other, and take time to drop in for a visit with the staff. During the past few months we've seen a number of familiar faces. Joe Lane, Met. '43, and his wife stopped by last Easter after he had finished work for his Ph.D. at M.I.T. Joe was on his way to the Naval Research Laboratory at Washington. Shortly after, Don Crews, Met. '42, on his way to an AFA meeting, stopped for a visit with a classmate, Harry Czyzewski, and others on the staff. Don is engaged in foundry instruction at the Univ. of Cincinnati.

Last spring also gave us visits with Bill Berkey, Met. '48, teaching practical metallurgy courses at Chanute Air Force Base, and Walt Johnson, Met. '40, who is sales representative for a refractory concern in the territory. L. T. Lloyd, Met. '44, was also here for a visit.

During the summer session, no metallurgy courses were taught, but most staff members were here to greet Frank Lister, Met. '44, Charley Cook, Met. '44, Sam Leber, Met. '47, James Willett, Min. '49.

Frank and his wife were visiting relatives in Monticello; he's doing propellor research for Hamilton. Charley Cook exhibited great devo-

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Alumni Meet At Metals Congress

The location of the annual Metals Congress in Chicago affords an unusual opportunity for our alumni to meet again and the focus of get-togethers is the Alumni Luncheon, held this year in the Palmer House.

A record number of grads attended the luncheon, and there was much talk of campus days and subsequent events, exchanging of baby snapshots, etc. Apparent also was interest in the growth and changes in the department and curriculum.

Among those present were R. E. Mahr '39, Chrysler; D. R. Gosch '39, H. A. Wilson Co.; C. R. Weymueller '49, Republic Steel; E. J. Sluetz '47, Caterpillar; W. W. Berkeley '48, Chanute AF; G. F. Tisinai '48, Standard Oil; R. L. McGaughey '48, Elgin Watch; G. W. Wensch '46, Los Alamos Lab; Ross Mayfield '42, Argonne Lab; T. S. Simms '40, Crerar Library; R. E. Herzler '40, Reynolds Metals; J. A. Gaines '44, Signode Strapping; R. M. Curcio '44, Permo; D. R. Burnett '50, Continental Fdry; E. P. Spencer '47, Nat'l Cylinder Gas; W. Jonsson '47, Link-Belt; J. M. Bates '40, Carbide & Carbon; D. K. Davis '40, Western Brass Mills; R. W. Hailey '41, Knolls Atomic Power Lab; C. E. Bates '43, Delco Remy; R. H. Van Pelt '43, Caterpillar; and P. H. Frederick '50. Also on hand were three Illinois grads who are in the metallurgical field now, but did not graduate from this department: C. E. Sims, Chem.E. '15, Battelle; J. B. LaPota, Chem. '42, Nat'l Cylinder Gas; and E. G. Appel, Chem '33, Bjorkstire Lab.

Those members of the departmental staff who attended the banquet were H. L. Walker, A. C. Forsyth, R. W. Bohl, W. H. Bruckner, E. J. Eckel, and Harry Czynewski. In addition, a number of graduate and undergraduate students were present: R. M. Brodnick '49, L. A. Dehm, L. J. Gagola, H. F. Petsch, M. A. Pohlman, K. D. Shimmin, E. J. Schwetz, Robert Necheles, and L. A. Huebner.

At the conclusion of the luncheon, Prof. Walker introduced individual alumni (being able to call off all by name), and reviewed the progress of the department and university during the past year.

A number of other alumni were seen at the various sessions of the

Careers Conference Held

The second annual conference on Careers in Mining Engineering for high school personnel and vocational advisors was held in Urbana last June. The purpose of this meeting, as of last year's conference, was to give high school advisors an accurate picture of mining and mining education in Illinois, and inform them of opportunities in the field. With this information, they can better serve to advise students who are considering mining as a career.

Men from the coal industry gave excellent cooperation to the project. The program included talks by H. C. Woods, Sahara Coal Co., C. F. Herbert, Bituminous Casualty Co., J. A. Bottomley, Sahara Coal Co., M. D. Cooper, National Coal Assoc., J. A. Simon, State Geological Survey, and L. A. Trovillion, Peabody Coal Co., on various aspects of mining and mining operations. Other sessions were conducted by members of the staff: Profs. Walker, Clark, Chedsey, and Voskuil.

The conference also included a tour of the engineering campus and an underground visit to Peabody Mine No. 17 at Pana, Ill. The meeting was well attended and well received.

Staff Members Win Promotions

Congratulations and added respect are due Profs. W. H. Bruckner, A. C. Forsyth, and B. G. Ricketts, who were promoted this fall to the rank of Associate Professor. All alumni will be glad to hear of this recognition of the ability and service of these men.

Now the higher brass of the department includes Profs. Walker and Chedsey, and Assoc. Profs. Eckel, Bruckner, Forsyth, Ricketts and Wert. More about Prof. Wert can be found on page two.

Congress, but were not able to attend the luncheon. These men were Bob Bayer '44, du Pont; Jim Bechtold '47, Westinghouse; Frank Rough '43, Battelle; John Snyder '37, du Pont; Gene Ellis '47, Timken; Frank Bolda '48; Joe Waisman '40, Douglas; Paul Furkert '41, Gas Appliance; Don Crews '42, Univ. of Cincinnati; Don Roach '42, Battelle; Jonathan Smith '47, Stewart Furnace; R. J. Benes '48, Electromotive Div. of G.M.; Tom Perry '48, Republic; John Merutka '49, Nat'l Lock; and Willard Jacobs '48.

Senior Seminar Course Described to Alumni

At the Illini Alumni Luncheon in connection with the National Metals Show on October 25 an outline of the conduct of senior seminars was given. The alumni present were interested and in accord with the course. C. E. Sims '15, Assistant Director of Research, Battelle Memorial Institute, stated one of his biggest problems was good report preparation by young engineers, and was high in his praise for the present conduct of seminars.

The department is carrying half-time assistants in rhetoric and in speech on its faculty. These men are working for their doctorate degrees in English and in speech, and take part in the seminars. The assistant in rhetoric grades abstracts of talks given, corrects rhetoric in reports and examinations, and otherwise attempts to help students to express themselves properly. The assistant in speech corrects the presentation of seminar reports, occasionally makes recordings of speeches and plays them back to point out errors made, and is available for consultation and speech correction.

ALUMNI (Cont. from Page 3)

tion to his duties with the Titanium Div. of Nat'l Lead; no sooner had he arrived at the lab on his vacation than he took titanium specimens from his pocket and began polishing on them. All were glad to see Sam Leber back in tip-top condition after his attack of polio. Sam is getting versatile experience in the research laboratories of Horizons, Inc., Cleveland. A late summer caller, Jim Willett reported on his new job as pit engineer on the Mesabi Range at Biwabik, Minn., but was more eloquent about the excellent fishing, hunting and social opportunities.

A recent alumnus to see us was Warren Schilke, Met. '47, working for Alcoa at Pittsburgh on lubrication problems as applied to wear, deep drawing, and forging.

There is nothing like a successful football team to bring them back to the campus, and here for the Ohio State game were W. E. Hensley, Met. '49, of Allison Div. of Gen. Motors, Indianapolis; G. C. Willing, Met. '49, and D. R. Burnett, Met. '50, of the Continental Foundry, Chicago; and W. L. Rudin, Met. '42, doing consulting work in Chicago.