

Tankmen Win, Cagers Lose at Lawrence

Swimmers Remain Undefeated As Lawrence Succumbs 63-13

Sparked by co-captain Joe McNerney, the Illinois Tech swimming squad trounced Lawrence College 63-13, in a dual meet last Saturday at Appleton, Wisconsin. The victory was number four in as many starts for the tankmen who have conquered Loyola, Chicago Teachers College, and De Paul in previous meets.

The Techmen asserted their superiority early in the meet, winning the first three events, giving way to the Vikings Miote in the backstroke event, and then finishing the meet by taking firsts in the remaining events. Along with McNerney, John Makieski and Ernie Helmer protected their individual undefeated season's record. McNerney took firsts in the 50 and 100 yard free style events. Makieski repeated by taking top honors in the diving competition while Helmer added five points to the Tech total by winning the breast stroke event.

The swimmers set a new school record in the 400 yard relay in their conquest of the Vikings. The relay squad composed of Nelson, Maier, Mitchell, and McNerney turned in a time of 4:04.2, beating the previous record by 2.4 seconds.

Summaries:

50 YARD FREE STYLE—Won by McNerney, Illinois Tech; Schmidt, Illinois Tech, second; Watson, Lawrence, third. Time, 1:12.6.
100 YARD FREE STYLE—Won by McNerney, Illinois Tech; Schmidt, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.
200 YARD FREE STYLE—Won by McNerney, Illinois Tech; Mitchell, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.
400 YARD FREE STYLE—Won by McNerney, Illinois Tech; Mitchell, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.
800 YARD FREE STYLE—Won by McNerney, Illinois Tech; Mitchell, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.
1600 YARD FREE STYLE—Won by McNerney, Illinois Tech; Mitchell, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.
3200 YARD FREE STYLE—Won by McNerney, Illinois Tech; Mitchell, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.
6400 YARD FREE STYLE—Won by McNerney, Illinois Tech; Mitchell, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.
12800 YARD FREE STYLE—Won by McNerney, Illinois Tech; Mitchell, Illinois Tech, second; Colvin, Lawrence, third. Time, 57.3.

Two Meets This Week

At 7:00 p.m. Friday, the swimmers will play host to Chicago Teachers College in a return meet at the Valentine Boys Club pool. In the first meeting of the two schools, the Techawks whipped the CTC crew 52-22.

North Central College will provide the tankmen's opposition Saturday in a dual meet at the Valentine pool at 3:00 p.m. Little is known about the Naperville aggregation although latest reports indicate that the suburbanites will give the Scarlet and Gray their first real test of the current campaign.

DePaul Swamped 76-7

Winning every event by large margins, the Illinois Tech swimming squad beat DePaul University 76-7 in a dual meet last Friday. Paced by Joe McNerney, the swimmers had little trouble in chalking up their third straight victory. McNerney shattered the 60 yard free style mark by .9 seconds, swimming the distance in 30.7 seconds.

Seven Win Smokes In Prophet Contest

Seven men have received awards in the Technology News sponsored "Pick the Winner" contest in the first eight Illinois Tech basketball games. John Seegers, Senior Civil, has won two of the contests which enables members of the student body to pick the winner and the score of the Techawk cage games during the current campaign. For their winning selections in this unique contest, the victors receive two cartons of Chesterfield cigarettes.

The winners and the games for which their entry was the best selection are as follows: Dave Hoffman, Loyola; Carl Bergstrom, Chicago Teachers; Jim Gibbons, George Williams; Wally Gow, U of C; Dick Lund, Lake Forest; John Dailey, De Paul; Seegers' winning combinations came in the Concordia game and in the return match with Lake Forest.

Sixty Universities and Colleges Indicate Desire To Participate in Relays

More than sixty colleges and universities from 17 states have already indicated intentions of entering the 1947 Illinois Tech Relays which will be resumed at the University of Chicago Fieldhouse on March 15 after a three year wartime lapse, Athletic Director John J. Schommer today announced.

Notre Dame University, coached by E. R. "Doc" Handy, which won the 1943 university championship over a field composed of Illinois, Michigan, Michigan State, Marquette, Indiana, Missouri, Northwestern, Purdue, Wisconsin, Drake, and Chicago, will enter a full squad in defense of its title.

In the college division tentative entries have been received from every team which scored a point in the 1943 games, with the defending champions, Michigan Normal of Ypsilanti, heading the field of forty.

Among the states which will probably be represented are Illinois, Indiana, Wisconsin, Missouri, Michigan, Nebraska, Alabama, Texas, Tennessee, Iowa, Louisiana, Kansas, Colorado, Ohio, Minnesota, South Dakota, and North Carolina.

Cagers Lose to Vikings 63-40, Win Again From Lake Forest

The Illinois Tech cage squad dropped their sixth encounter in nine starts last Saturday, suffering a 63-40 defeat at the hands of Lawrence College on the Vikings home court. The Wisconsin squad led at halftime 39-17 and were never pressed for the lead at any time during the game. Jim Oldshue, Techawk center, garnered 18 points to clinch individual scoring honors for the evening.

Tech's third victory of the season, this being the second at the expense of Lake Forest.

The Techawks found considerable trouble in setting their defense and the Vikings took advantage of the Scarlet and Gray's dilemma by piling up a big lead which the Techmen found impossible to overcome. Lacking the services of guard Ned Grable who failed to make the trip, the Techawks fast break attack failed to click satisfactorily. Ten of the eleven members of the Lawrence crew aided in the scoring column.

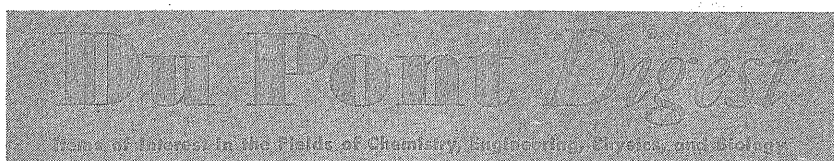
Techawks Beat Lake Forest

In the return game with Lake Forest, the Techawk cagers again beat the north shore squad on their home court, 72-51. Paced by guard Ned Grable who led scoring for the evening with 22 points, the Techawks were never behind during the entire contest. It was Illinois

DePaul "B" Team Victorious

In the last game before the holidays, a mighty DePaul squad, comprised of players who were declared ineligible for regular varsity competition, dealt Illinois Tech cage defeat number five by a 90-55 count. Although the Tech squad proved to be no match for the "Home of the Mikans" squad, the Techawks found many holes in the DePaul defense. As evidenced by the score, the game was an offensive game for both teams.

Lawrence (63)	B F P	Illinois Tech (40)	B F P
Larson, f	1 1 1	Smart, f	2 1 5
Swenson, f	4 2 1	Fleck, f	1 1 1
Miller, f	3 1 4	Behrens, f	0 1 2
Hall, f	1 5 1	Oldshue, c	6 6 5
Davis, c	3 2 4	Swanson, c	0 0 3
VanDwyngaert, c	2 4 2	Murphy, g	5 2 4
Burton, g	4 0 2	Dailey, g	0 0 0
Bainson, g	3 0 5	O'Conary, g	0 1 4
Cooper, g	0 0 1	O'Connell, g	0 0 1
Boya, g	1 0 0	Shim'lp'nis, g	0 1 1
Curry, g	2 0 3		



High-Pressure Synthesis Opens New Chemical Fields

A Challenge to Research Men and Engineers

The use of techniques involving pressures up to and above 1,000 atmospheres (15,000 lb. per sq. in.) has had a tremendous influence on chemical manufacture in the past twenty-five years.

The availability of unlimited quantities of nitrates via ammonia from nitrogen of the air by high pressure synthesis has greatly affected chemical economics as well as agriculture.

The plastics industry, too, has benefited greatly by the reduction in price of urea from about 80¢ lb. to less than 4¢, and methanol (to give formaldehyde) from \$1.25 gal. to less than 25¢.

High pressure syntheses have also participated in a major way in the development of entirely new products such as nylon and polythene. In fact, starting from coal, air and water, Du Pont now makes over 120 widely used products.

In addition to improving the existing processes of manufacturing ammonia, methanol, higher alcohols, urea and other important chemicals, Du Pont organic and physical chemists, chemical, mechanical and metallurgical engineers have discovered and developed high pressure syntheses for the following: ethylene glycol; hexamethylene diamine; acetic, propionic and hydroxyacetic acids; methyl formate; C₂, C₃ and C₄ alcohols; and numerous others.

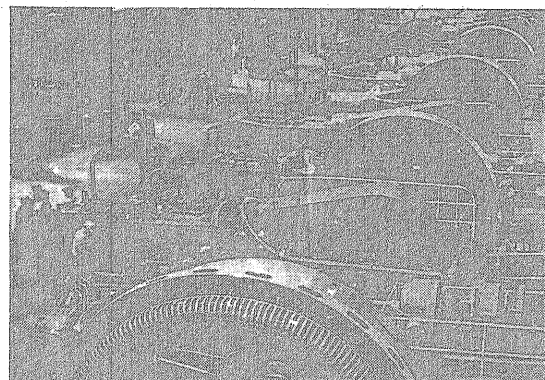
Advantages and Problems

The use of high pressures offers numerous advantages familiar to technical students, such as: (1) forcing an equilibrium in the direction of a volume decrease, (2) overcoming the reversing effect of high temperatures in exothermic reactions, (3) increasing reaction and through-put rates and (4) providing, in some cases, a liquid phase which might not otherwise be present.

The synthesis of urea from carbon dioxide and ammonia is a good illustration of some of these principles:



With three moles of reactants and only two of products, increase of pressure gives an expected increase in conversion.



A Battery of Hyper Compressors Used to Bring Gases up to 700-900 Atmospheres Pressure in the Ammonia and Methanol Syntheses.

At the same time, the gaseous reactants are forced into the liquid phase to give higher concentrations and again better conversion. The reaction rate and therefore the rate of passage through the reaction chamber are both increased by increasing the temperature under high pressure conditions. There are other equilibrium considerations that affect the industrial production of urea, but they are too lengthy to discuss here.

Along with its advantages, the use of high pressure gives rise to problems that often severely tax the abilities of engineers and chemists. For example, (1) difficulties of design of packing glands, valves, connecting rods, closures, etc., increase rapidly with increased pressure, (2) extraordinary corrosion problems arise in which even stainless steels are attacked and cannot be used, (3) ordinary steels are permeable to hydrogen at higher pressures and temperatures. These are but a few illustrations of the challenge that high pressure studies present to the technical man and particularly to the metallurgical and chemical engineer.

High pressure synthesis has now become a separate field of industrial chemistry with an apparently limitless future.

Questions College Men ask about working with Du Pont

What kind of a technical organization does Du Pont have?

There are ten manufacturing departments in Du Pont, each operating as a separate organization and each with its own research and engineering staff. In addition, there is a central chemical department and a central engineering department. Consequently there is a wide variety of research and engineering work available to chemists, engineers and other technical specialists. For further information write for the new booklet "The Du Pont Company and the College Graduate," 3021 Nemours Bldg., Wilmington, Delaware.



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