

Maguire takes 3-mile at Penn Relays...

By DAVE DUNLOP
Collegian Staff Writer
Charlie Maguire, Bill Gifford and Joe Feerrar picked up firsts at the prestigious Penn Relays over the weekend. Maguire's coming at the championship level, in a meet coach Harry Groves said Penn State "placed well" in.

Maguire won the championship three-mile, Gifford the college level pole vault and Feerrar the college javelin in a two-day program bothered throughout by steady rain.

"Performances all the way through were affected," Groves said. "Athletes had to stand around for three or four hours waiting to compete." Groves added that the team was at Philadelphia's Franklin Field at 9 a.m. Saturday and didn't leave the stadium until after 6 p.m.

Events at the Penn Relays are broken down into two divisions, championship and college. In track, qualifying trials were held Friday to determine where teams and individuals competed while in the field events, athletes were judged on past performances and placed accordingly.

Maguire won the championship three-mile in 13:41.6 in what Groves called "quite an accomplishment. Charlie

looked real sharp." The college division pole vault was held indoors due to the inclement weather and Gifford, only a freshman, responded with a new Penn State indoor record, 15' 6".

Feerrar, a 6-1, 210 pound sophomore, came through with his career best in winning the college javelin. His toss of 227'8" was 12 feet farther than his previous best.

Groves said he was pleased with the team's showing and added it is a success to "win anything" at the Penn Relays.

The Lions' shuttle hurdle relay team of Ed Chubb, Don Guerriero, Mike Shine and Fred Singleton finished second to Penn in a clocking of 58.8 seconds.

In the sprint medley Ed Vresilovic grabbed the baton with a 10-yard deficit, made it up and eased to a 10-yard head but couldn't hold it as the Lions finished second to Princeton in a time of 3:27.3. The Tigers had a time of 3:27.1.

The rest of the sprint medley team was Bill Krieger, Shine and Chubb. "Vresilovic did what he was supposed to do," Groves explained.

Jimmy Scott pulled up lame with a leg cramp in the 880 relay and barely finished to give the Lions third place in 1:27.3 behind Norfolk State's winning time of 1:27.1.

Chubb was a last minute replacement for Scott in the mile relay but despite a steady race, Penn State finished fourth.

"It wasn't Chubb's fault," Groves said of the race the Lions trailed start to finish. "He ran a good lead off." The team of Chubb, Karl Tewold, Russ Perlman and Mike Sands ran a time of 3:18.8.

Singleton placed fifth in the high hurdles with a time of 14.3 seconds.

In the two-mile relay, Jim Morrison ran a 1:52.9 half-

mile lead off leg but the Lions' overall time of 7:40 was only good for a poor seventh.

Vresilovic ran the anchor instead of John Fuller when the latter sprained his ankle stepping off a curb Friday. "I guess he wasn't paying attention," Groves said.

In Friday's competition, mostly devoted to qualifying trials, John Reihner placed third in the college discus with a 164' 7" toss, made remarkable by the extreme wetness.

Bill Dvorzak placed third in the college hammer with a heave of 173' 8" and Al Jackson's 184' 2" was fifth in the championship division.

Fullmer ran a 4:10.4 mile anchor in the distant medley as the Lion team of Morrison, Perlman and Bob Hillman finished sixth in a clocking of 10:00.8.

The 440 relay team

qualified but ran out of the zone when switching the baton and placed nowhere for the meet. Groves took it in stride as one of the consequences of a difficult meet but added, "They better learn about a taking off early."

Groves said the meet was too massive, however. He said the officials "let the meet get so big, that by late Saturday you were oblivious to it all."

O'Neill, golfers stop wind, WVU

By GUY GUERRIERO
Collegian Sports Writer
Prior to the start of Saturday's golf match, West Virginia coach Charles Hockenberry said his squad was capable of beating anybody on any course, but it just wasn't proving it. Well, four hours later, the Mountaineers hadn't proven it again as Penn State rolled to win number nine, dumping the visitors from across the Mason-Dixon line 400 to 412.

Coming off the front line, neither team looked impressive as cold weather, rain, and 20 to 35 mile-an-hour winds sent the scores upward and kept the contest close. But the final nine proved to be a different story as the Lions pulled away and sent West Virginia home on a losing note in its final contest of the season.

Captain Dan O'Neill led the attack as he bounced back from a five over par front

nine to record a one-under 35, on the back nine and again win medalist honors.

Behind the Lion captain came John Krumrine and Bob Dine with 79's. Dine, only a freshman, had an unmemorable debut as a Lion golfer two weeks ago against Kent State, recording a 93. Since then, he has come on to card rounds of 78, 82 and 79.

"I'm really happy to be a part of this team," Dine said. "I know I had a bad start in my first outing, but since then I have begun to play wiser golf."

"I was very nervous, not on the outside, but subconsciously in my first match. I hit a couple of bad shots early and the pressure I felt inside got to me, and I blew up. Instead of trying to correct my errors, I just kept hitting the same bad shots."

"Now that I've settled down in my last few rounds, I'm very satisfied with my

game," Dine said. "If I can keep my scores between 78 and 80 and continue to hit the ball as I did today, I'll be very happy."

Golf coach Joe Boyle gave another newcomer a chance to prove himself Saturday as Bill Apple broke into the lineup for the first time. Apple shot a respectable 85 in the wind and rain and is looking for better in future outings.

"I was glad to get a shot at it," Apple said. "I was nervous and could have shot better, next time I'll see if I can bring it down."

Jim Camella, the number one man for the Mountaineers, bogeyed holes 10 through 14 to bring his season to a sad end, recording a nine over 81.

"I went to sleep on the back nine," Camella said. "I wasn't thinking, the wind gave me problems, and my putting went sour. It all adds

up to one bad round." Although Camella and the rest of his teammates found the going difficult, WVU's Bill Hurley did manage a strong 77 on the strength of four birdies over the first ten holes.

Hurley's round didn't seem to impress Hockenberry however, as the Mountaineer coach expressed disappointment about his squad's overall performance.

"They all complain that the weather had a great deal to do with their high scores, but Penn State played on the same course at the same time, and look at their performance."

Penn State 400, West Virginia 412.
Dan O'Neill (PS) 76, Bill Hurley (WVU) 77, Bob Dine (PS) 79, John Krumrine (PS) 79, Jim Camella (WVU) 81, Fred Von Bargen (PS) 83, Rex Ferguson (PS) 83, Dave Kaiser (WVU) 84, Joe Cordaro (WVU) 84, Bill Apple (PS) 85, Harry Hamilton (PS) 86, Mike Marsh (WVU) 86, Toni Bertini (WVU) 86, Rich Rodocha (WVU) 88.

...but Villanova steals show

PHILADELPHIA (AP) — Villanova track coach Jim Elliott, a "gloomy gus" even when he's optimistic, was saying last week that there was no way that Villanova could win three relay titles at the 79th annual Penn Relays.

Elliott threw his hands up in horror when someone suggested his Wildcats would have a breeze in the distance medley, two mile and four mile baton events. He gave the forecaster an "are you out of your mind?" look.

Who's crazy now? Villanova ran away from the fields Saturday in the distance medley, four mile and two mile. It would be fair to say the three events were "no contest."

Villanova's biggest victory came in the four mile over what should have been a tough Bowling Green quartet. Bowling Green won the four mile Friday at the Drake Relays in 16:19, well under the best ever ran at the Penn

carnival. The visitors had Dave Wottle, the Olympic Gold Medal 800 meter champion and anchorman. Their adrenalin should have been flowing in this big effort to win an unprecedented two titles at two major meets in 24 hours.

What happened, if Wottle's explanation of Bowling Green's humiliating defeat is to be accepted, is that the adrenalin froze in the chilly 59 degree, 14 mile-per-hour wind Philadelphia weather. It had been sunny and warm at Drake.

Wottle, who wore his familiar white cap, said the plane trip and the drastic change in weather, plus a good Villanova team, equalled defeat for Bowling Green.

Michigan won a pair of major relay titles, taking the sprint medley in 3:19.7, and the mile in 3:10.9. The other relays went to Arizona State in the 440 (40.7), Penn in the

480-yard shuttle hurdles (57.6), and Norfolk State the 880 (1:26.5). An injury plagued North Carolina Central team, pre-meet favorite in three relays, left empty handed.

Tennessee and Texas El Paso each won individual doubles. El Paso's Pete Farmer capturing the hammer throw 222-11 and Hans Hognlund, the shot put 62-8 1/2, while Tennessee's Dan Martin took the javelin 230-5 and Doug Brown the 3,000 meter steeplechase 8:43.0.

Other winners Saturday were Charley Maguire, Penn State, the three mile (13:41.6); Ken McBryde of Manhattan, the triple jump (50-8 1/4); Chris Dunn of Colgate, the high jump (7 feet); Charley Foster, North Carolina Central, the 120 hurdles (13.4); Ed Hammonds, Memphis State, the 100 yard dash (9.14); Florida's Mike Cotton the pole vault (16 feet).

University Film Study Center
SUMMER INSTITUTE ON FILM AND PHOTOGRAPHY
June 17 - July 6
Hampshire College, Amherst, Massachusetts

SEMINARS
AMERICAN FILM with David Shepard: DOCUMENTARY FILM with Alberto Cavallanti: ETHNOGRAPHIC FILM with John Marshall: INDEPENDENT AMERICAN FILM with Sheldon Renan: INTRODUCTION TO FILM STUDY with Ted Perry and Bill Sloan: TEACHING YOUNG FILMMAKERS with Rodger Larson

WORKSHOPS
FILMMAKING with Ricky Leacock: VIDEO WORKSHOP with Ed Emshwiller: SCREENWRITING DESIGN with George Bluestone: FILM ANIMATION with Derek Lamb: PHOTOGRAPHY with Jerry Liebling: PHOTOGRAPHY SEMINAR with Garry Winogrand

For further information contact: Terry Kemper, UNIVERSITY FILM STUDY CENTER, Box 275, Cambridge, Massachusetts 02138 (AC 617) 894-0920



THE OFFICIAL PENN STATE CLASS RING
by Josten's

Compare quality, detail, workmanship, guarantee and price, you'll choose ours. moyer jewelers

FREE!



Order your official Penn State Class Ring between now and May, 5th and we will give you this 16 oz. ceramic tankard, a \$5.00 value, absolutely free.

A \$5.00 deposit is all that's needed to order your Class Ring.

You'll only buy one Class Ring—buy the finest, buy Josten's

moyer jewelers
216 East College Avenue, State College

THINK DEEP

enough, you can be a Navy Nuclear Officer.

Aboard every Navy nuclear-powered ship, there are officers from colleges just like this one. The point is that to be considered for this extraordinary program, you don't have to go to the Naval Academy... or join the NROTC. What the Navy needs now are some very special college graduates who aren't afraid to find out how good they really are. Who will consider our extensive and demanding training program (designed by the Atomic Energy Commission), the most exciting challenge of their lives. A challenge that offers an ambitious college graduate an exciting future as a Naval Officer, with his first assignment being a nuclear-powered surface ship or submarine.

Talk it over with your recruiter. Call him at (215) 597-4691. Or send in the attached coupon.

Be a success in The New Navy.

SEND TO:
Officer Programs Officer
219 North Broad Street
Philadelphia, Pa. 19107
Phone: (215) 597-4691 (call collect)

Gentlemen:
I am interested. Please forward more information on Nuclear Propulsion Officer requirements.

Name _____ Age _____
Address _____
City _____ State _____ Zip _____
Current College Year _____

COMMONSPLACE THEATRE
presents
April 30
8 & 10 pm

Flash Gordon
in
Purple Death from Outer Space
Kern Graduate Commons 50¢

The research behind the BOSE 901.

By now almost all Hi-Fi enthusiasts know about the performance of the BOSE 901, about its unprecedented series of rave reviews and its unparalleled acceptance by musicians, stereophiles and the public. But few people know how this unconventional speaker was born. In this first article of a series, we would like to share with you the highlights of the twelve years of university research that led to the 901.

The research begins.

In 1956 a basic research program on musical acoustics was started by Professor Bose. The motivation for this research came from the apparent discrepancy between the acoustical specifications and the audible performance of existing loudspeakers. Musicians were quick to observe the boomy and the shrill sounds produced by loudspeakers for which engineers claimed excellent specifications.

Dr. Bose's research began by making exacting measurements on loudspeakers and setting up experiments to correlate these measurements to aural perception.

By 1959 it was clear that not only were the existing measurement standards (established 30 years before) incomplete, but worse, they were often misleading. For example, measurements of frequency response and distortion made in anechoic chambers not only fail to indicate what a speaker will do in a room, but speakers with better chamber measurements can actually give inferior performance in the home—and vice versa!

Probing psychoacoustics.

By 1960 it became evident that basic psychoacoustic research was necessary to relate the subjective performance of loudspeakers to objective design parameters. This research was launched and the first major results were reported in November 1964 at a joint meeting of the Audio and Computer groups of the Institute of Electrical and Electronic Engineers held at M.I.T. It was this research that established the validity of the then controversial concepts of multiplicity of full range drivers, speaker equalization, and flat "power" response. It was also shown, with the help of computer simulations of ideal acoustical radiators, that electrostatic, or other types of speakers have no potential performance advantages over properly designed cone speakers—a result that was not known prior to 1964.

Significance of reflected sound established.

At the time of the 1964 meeting, however, little was understood about the spatial properties of speakers. There was some evidence that direct radiating speakers caused shrillness in music but the reasons were not known. From 1964 to 1967 the research concentrated on these spatial problems. With the co-operation of the Boston Symphony Orchestra, measurements were made during live performances to determine characteristics of sound incident upon the listeners.

Theoretical studies, verified by experiments, showed that in live performances sound arriving at the listeners' ears from different directions was much more evenly balanced than was the case for loudspeakers in home environments. Experiments then linked this spatial difference to the strident sounds produced by loudspeakers. Then it was discovered that the desirable spatial characteristics could be produced in the home by directing a large percentage of sound away from the listener at precise angles to the rear wall.

The culmination of 12 years research.

In 1968 we decided to incorporate all the knowledge gained from the years of research into the design of an optimum loudspeaker for the home. The result is the BOSE 901. Perhaps this explains our confidence in asking you to compare it to any other loudspeaker regardless of size or price.

You can hear the difference now.
BOSE
Frammingham, Massachusetts 01701

Hear the Bose 901 at...

WE KNOW WE'RE HARD TO FIND BUT...
STUDENT BO
...WE'RE WORTH FINDING!
Phone 237-8888