

ME 72 Is Coming!

by Golda Bernstein
 "It's just like a bicycle... except vertical" says Dr. Antonssen. The class nods and looks wise. The next day we go down to the shop and discover that vertical bicycles are non-trivial to actual build.

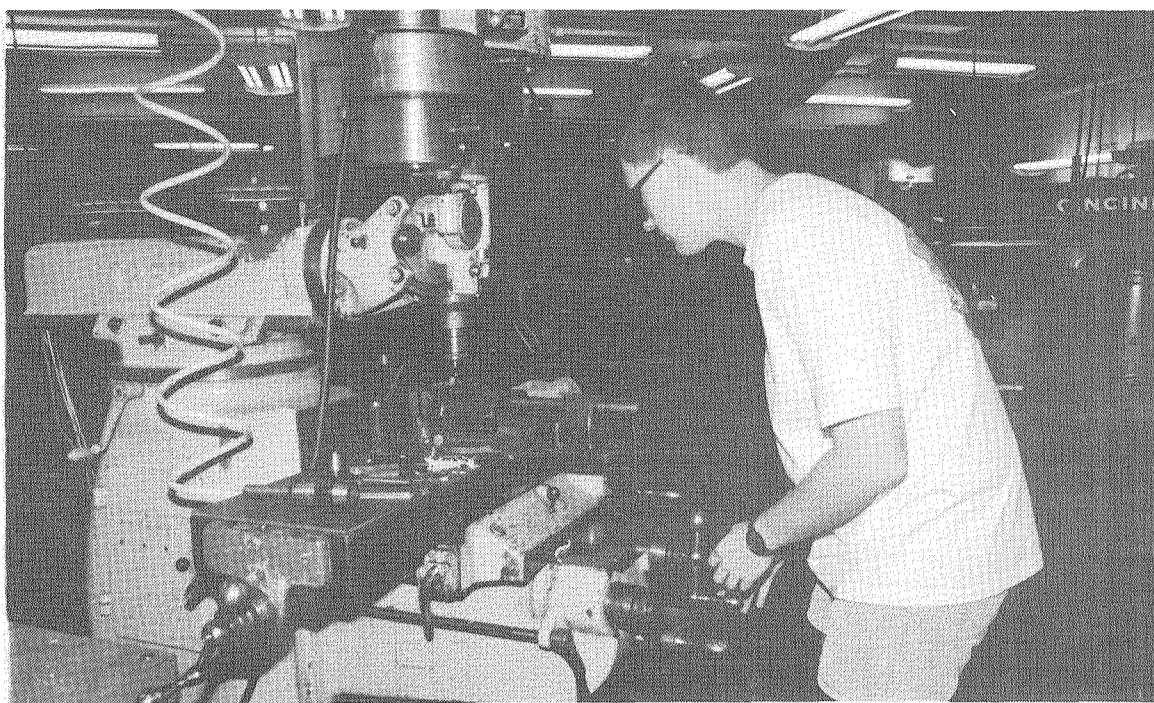
The task is simple: Go to a rope and climb 11 feet high before your opponent does, or, if you both fail to reach the top within 30 seconds, be higher than he is. After seven weeks of continuous design, building, testing, re-design, re-building, and re-testing, some devices are in fact climbing to the top. Others are going to the rope. Still others have style... and one *lytle* device shoots out and stops it's competitor from even reaching the rope....

Limits on size, weight, power and materials help make the contest more challenging. Power comes from two sources: motors

and rubber bands. Four of the combatants are attempting to use projectiles fired by rubber bands in order to get to the top first. However, the rubber bands apply so much force that the 'gun' often breaks in the testing.

Another approach is the elegant 'Lazy Tongs' model; yet another is the "I measured it to within 1/100,000 of a centimeter" Swanson Inchworm, which will win on style as it crawls up the rope. Lastly, there is always the "Kill 'em and Stand Tall" method of last resort, similar to the *lytle* method... unfortunately, these particular devices have met with unfortunate accidents within the past few days....

So if you don't see some of your classmates for the next week, just check out the shop in the sub-basement of Spalding... and come to the final CONTEST on THURSDAY, DEC. 6 at 2PM in Ramo Auditorium.



Scott Harris is busy working on his ME 72 project. The competition is next Thursday at 2 p.m.

photo by Michelle Tseng



A scene from the first annual Caltech/Club Homeboy biathlon. There were twenty entries in the race. Craig Reynolds, the Caltech assistant athletic trainer, and one of his training friends, Al Bates won the race.

photo by Hampden Kuhns

First Homeboy Biathlon

by Chris Campo
 John Pham sported an ear-to-ear smile as he deftly applied his razor to the head of a sullen figure slumped on a chair in defeat. "All I gotta say is John better look out next time!" exclaimed Ned Bowden as John continued shaving his head. Ned's new 'do is the result of his having lost a bet to John Pham over the First Annual Caltech/Homeboy Biathlon at the Rose Bowl on Sunday, November 19, 1990. The pair of bold biathletes swore that whichever of them had the better time in the race would have the pleasure of shaving the loser's head in any manner the winner chose. The biathlon was a smashing success. There were twenty-one competitors, including seven Caltech undergrads, five Caltech grad students, and three JPLers. Also competing were Caltech athletic trainer Craig Reynolds and three of his training buddies.

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CALTECH BIATHLON RESULTS ROSE BOWL, SUNDAY, NOVEMBER 19, 1990 ONE LAP RUN—SIX LAPS BIKE—ONE LAP RUN (Each lap approximately 3.05 miles)

#	NAME	1st Run	Bike	2nd Run	TOTAL
1	Al Bates	16:06	44:49	17:52	1:18:45
2	Craig Reynolds	16:06	44:49	17:52	1:18:45
3	Troy Gielish	17:07	44:09	19:08	1:20:24
4	Mike Cramer	16:34	48:27	19:01	1:24:02
5	John Pham	18:13	49:30	19:20	1:27:03
6	Chris Campo	16:57	53:13	18:40	1:28:50
7	Mark Vincent	18:03	51:11	20:52	1:30:06
8	Steve Matousek	19:17	51:12	22:51	1:33:20
9	Roy Kakuda	19:03	54:47	20:44	1:34:34
10	Ned Bowden	19:16	58:03	21:35	1:38:54
11	Relay— Amy Hansen & John Krowas	25:57	50:44	23:45	1:40:26
12	Dan Jones	20:44	57:26	23:46	1:41:56
13	John Doyle	18:53	62:07	24:15	1:45:15
14	Tim Wachholz	18:56	61:49	25:45	1:46:30
15	Richard Hartshorn	22:26	62:19	23:13	1:47:58
16	Andy Wells	21:39	59:00	27:37	1:48:16
17	Phil Lovelenti	24:30	60:45	27:09	1:52:24
18	Gail Ryba	22:26	63:26	27:05	1:52:57
19	Erin Cramer	22:55	64:52	27:46	1:55:33
20	Kevin Plaxco	25:57	61:30	31:18	1:58:45
dnf	Mark Lyttle	18:02	flat tire		

CRIME AND INCIDENT BEAT

- Crime tip: At night, an on-campus escort service is available for getting an escort to the residence halls or the parking lots. The number for this service 356-4701.
- 11/16 The alleged corner of San Pasqual and California, which the Tech reported was the scene of a mugging last week, has disappeared. It seems that the perpetrators have not only stolen the victims' money, but have also made off with the scene of the crime. If this corner is found, please call security at extension 5000 so they may recover it and pass it on to the proper authorities.
 - 11/18 During a party at Dabney Hall, an argument broke out, and an intoxicated guest broke a glass pane in the south door of the building. The hostess agreed to pay for the damage.
 - 11/18 In an event of uncommon valor, Ruddock House members extinguished a fire that had started in the kitchen. The fire department arrived to find only someone's burnt supper.
 - 11/18 Two persons were observed inside the fenced area of the Physical Plant service yard, apparently attempting to remove one of the Dahaitsu carts. When the observer approached, the two climbed over the fence and fled.
 - 11/18 A security officer returned to his car that was parked at 367 Holliston, and found that a gray book bag containing several books and two radios was missing.
 - 11/19 A bicycle belonging to a member of Ruddock House was stolen. The bike was stored in the south lobby of Ruddock, and was unlocked.
 - 11/21 A student resident of the Catalina III apartments at 450 South Catalina found that her bike had been stolen from the bike rack, to which it had been locked.
 - 11/22 The vending machine located on the 1st floor of Thomas lab was damaged in an attempt to pry it open. Apparently nothing was taken.
 - 11/23 A visitor parked his vehicle between Keck and Baxter for a few minutes. During this time, someone pried open the driver's side window and removed a CD player that was on the front seat.
 - 11/25 A faculty member left his office over Thanksgiving and neglected to lock his door upon leaving. He noticed a silver letter opener and possibly carbons from his credit cards missing.
 - 11/25 In another bicycle theft, a student had locked his bicycle to a large pipe near 150 South Chester, but the bike had apparently been stolen overnight.
 - 11/25 Security officers found someone tending a small fire on the vacant lot south of 1170 Del Mar. The person stated he was burning the last of the wood from a structure that had been razed there. Security officers advised the person that he was trespassing and would be arrested if found on the property again.
 - 11/25 Security officers responded to a suspicious persons report in Fleming House. The suspect stated he had entered Fleming to get out of the rain. After a house member bought the suspect some Spud Nuggets from the coffeehouse, the suspect was advised that he was trespassing on private property, and was escorted off campus.
 - 11/25 A staff member found papers scattered on the floor and smelled alcohol in room 308A of Dabney Hall. It appears that persons from the parties that have been held in the lounge on weekends are responsible for the vandalisms. Total value stolen or missing: \$600

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Y News Y News

The IHC Minutes
November 28, 1990.
Present: The Presidents, Louie, Cathy Hafer, Mark, Jack and me.
There's only two weeks left to watch Cop Rock before it's taken off the air forever. The question in everyone's mind, what will Randy do with his time now?

1. Cathy came by to give a little more information about the projects for the Women in Science Month, next March. One project will be a time line which will be put in front of the houses. Through anecdotes the time line will depict the last twenty years and how Caltech has changed with the admission of women. There will be a meeting next Tuesday in the Y lounge at noon, to start the planning for this and other projects. Anyone interested is welcome to attend.

Jack tried to compete with Chris and Mark's finery by being congenial. It almost worked, until Cathy explained the reasoning behind it.

2. Jack, Pete, and John got together to discuss the pet policy (again). To allow cats back on campus, the houses must choose someone from their Excomm to be responsible for the house pets. This means making sure all the regulations are followed. The house will be charge for any damages occurring outside rooms. It will then be up to the house to find out whose

pet is responsible.
3. (Because Jack didn't skate away in time) Remember to write the letters to Gary Lorden and Tom Everhart telling them what you think of the food. (Gary is positive, Tom is negative.)

4. **Discobolus.** Fleming tied with Lloyd. this Sunday Fleming plays Page in tennis at 2. The next challenger is Ruddock.

5. **Interhouse.** OK, we can't have Interhouse exactly the way it's been in the past. However, the IHC has not given up. Last week, Dave, Jack and I got together to discuss alternative. We came up with this--to have a party in **Blacker, dabney, the SAC, and Filipino courtyard.** The entire South Complex would be locked and people stationed at various entrances to control any crowds. Now, even though it will be held in a smaller location, all houses are invited to help decorate, build, and plan the party. The lounges and dining rooms could be used for dance floor, leaving the courtyards for building things. The SAC has rooms which could be used by different houses to set up whatever they wanted, and Filipino could be uses for anything from having a band to putting on the house skits. *[Will ventilation be good enough down in the SAC?-ed.]*

Louie and Kim have said this is possible to do. Last night Louie said we could probably have it on a Saturday night if things are

planned well enough. So now, it's basically up to the students. It's going to take a fair amount of organizing to get all the houses working together, but that's a very important aspect of this idea.

Although it can't be held in every house, we want every house to feel that it's welcome to participate and contribute. There's room for each house to express itself and hopefully this will encourage people from different houses to get to know each other better. Jack, Dave and I will continue to work on the logistics. What we need from you is support. This could turn out to be a really fun event if people give it a chance and work a little. Continuing to complain that it's not the real Interhouse, not first term, etc isn't going to help anything at this point. If this works out well, we can work on returning Interhouse to first term next year.

Interhouse will be as good as we make it, regardless of any changes. For this to work, we need to forget about what's happened this term and concentrate on the future. We need to stop being pessimistic and apathetic. We need the support of all the houses. Look at what we can do and tell your president that you'll support this idea. Otherwise, it's going to be even more difficult to try anything next year. Let's make this work!

Eternally optimistic,
Andrea Mejia
IHC Secretary

Flibbity Floo! When I was a freshman in college, we didn't have DECOMPRESSION. We just had a little bicycle tire, and we let out the air. And we liked it! We LOVED it!!! None of this Decompression, Shmicompression. All you youngins out there who can sign up to help don't even know what it's all about. WE didn't have free shirts for working two hours! If we were lucky we'd have gotten a post-it note. And we LOVED it that way.

And what about this Tye-Dye Extravaganza??? We had to dye shirts with our own blood. And they weren't even shirts, they were rags because we couldn't afford shirts! Look at you: Dabney Court Yard, 4-6pm on a Wednesday afternoon, spending time flicking instead of studying. We couldn't flick even if we wanted to because anything we wanted to do we had to walk to. Uphill, both ways in the snow. And we liked it that way and I wouldn't have it any other way.

You can go to a Toy Bowl and see a Football game. We didn't even know what a football was! We didn't even have a field we could go to even if we knew what one was. You can go on December 1st at noon and see your team and the beaver jump around.

Flibbity Floo - You youngins don't know anything. Go do some-

thing useful and lend a hand to the needy!! Help set up the Bad Weather Shelter in Pasadena. Sign up to help at the Y and they will give you all the details you need. Flibbity Flibbity Floo!!! You...You...ACK...GRRRRR...BAH...Forget it!!!

Another Design Competition

P.S. If you are interested in design but not masochistic enough to take ME72, be a sadist instead. Help prepare a design competition for high school students...it's planned for early March, and we expect about 100 high school physics students to compete. It's exciting, fun, and puts stress on them, not on us. Call Golda at the Y x6163 if you're interested, or look for flyers for the first Physics Club meeting of the year sometime during finals week (After the ME72 design competition). If enough people want to do it, credit may even be possible to arrange.

Volunteer Party

Hey all you volunteers and potential volunteers out there! To celebrate a successful first term, with fourteen active volunteers and more signing up every day, you are all invited to a party at my house, 290 S. Holliston, next Friday evening! The purpose (other than to have fun) is to meet each other and recruit new people, so everyone who is even slightly interested in volunteering is invited. Hear about others' experiences, find out what it's really like! Free food....

Jim's Journal

by Jim

Today I went out for a walk.

I was cold at first, but got warmer after walking awhile.

I saw a fire hydrant that was painted all different colors.

I also saw a really old man who was hunched over quite a bit.

Today I called Steve to see if he wanted to do something.

He came over and we just sat around.

His tennis shoes were stark white.

I asked him if he got new shoes and he said yes.

I worked at the copy store again today.

I was making 200 copies of somebody's resume.

I read a little bit of it while it was copying.

The person's career objective was "a public relations position allowing for skill enhancement and career growth."

Jim's Journal

by Jim

Jim's Journal

Jim's Journal

I looked at greeting cards today.

It was just something to do.

Some of the cards were kind of funny.

I made 9,000 copies of an advertising insert today.

When I got home I watched TV, ate a peanut butter and jelly sandwich and got really tired.

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Jim's Journal
by Jim

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Combined Glee Clubs poses in front of the Atheneum in concert regalia.

Glee Club Holiday Concert

by Barbara Chang

For those who wish to unwind before finals week, the Caltech Glee Clubs present A Holiday Concert, their annual Christmas performance, at Dabney Hall Lounge on December 6, 7 and 8 at 8:00 pm. The musical repertoire consists of traditional carols, Hanukkah songs, Renaissance motets by Hsasser and Sweelinck,

and "Salvator Mundi" by Walter Matthias.

The Glee Clubs are composed of members from the Caltech community, including undergraduates, graduates, faculty, or staff. They have several concerts during the school year. The next large combined performance is the special Centennial concert with the Occidental/Caltech orchestra on May

17.

Christmas concert tickets are still available for the Friday, December 7, and the Saturday, December 8 performances. Tickets are available at the Caltech Ticket Office at 332 S. Michigan Ave. General admission is \$7. Students may buy discount advance tickets from glee club members for \$5.

Mountain Bike Race

The Graduate Record Exam—that accurses, painful experience which will be endured by many a senior come Saturday, December 8, doesn't have to claim everyone at Caltech as a victim. Escape is possible: instead of doing the GRE, travel to JPL and participate in the Mountain Bike Duathlon (a new term for 'biathlon', adopted because of confusion with the skiing and shooting event of the same name).

For all those individuals who were griping at the Caltech Rose Bowl Biathlon because they had a mountain bike instead of a road bike, here's an awesome chance to put that fat-tired, low-g geared monster to some use!

The race starts at 9:00 am sharp, and consists of a 5K run followed by a 7.5K bike hillclimb. Starting from the South Gate of the Jet Propulsion Laboratory, the run course winds through scenic Oak Grove County Park, up to Oak Grove Drive, and back on Oak Grove Drive to the transition area at the south gate.

The bike course starts from the transition area and skirts the south edge of the lab to the Arroyo Seco Trail and up the Arroyo through the Angeles National Forest to the top of Brown Mountain.

To enter the race, call Sugi Sorenson at (818) 354-1013 or Bill Read at (818) 354-6773. The race is open to all JPL employees and contractors, Caltech students, staff and faculty, and family members. All participants must pre-register by phone. Course maps and updated race info will be mailed out after you call and register. Helmets are required for the bike portion. Please bring your own water.

It is common knowledge that many Techers have ownership of a mountain bike, and so if none of you come to the race you should be ashamed of yourselves. Also, help is wanted and all volunteers are welcome. Call Bill or Sugi for more info.

Many Caltech people have never heard of the JPL Bicycle Club and don't realize they can be members. Membership entitles you to a 10% discount at many of the bike shops around town as well as lots of club perks (access to bike club tools and library holdings, club rides, monthly newsletter). And all for only 2 dollars a year!! Please direct club membership inquiries to David Goldsborough (JPL Mail Stop 190-112, or phone 354-2356), or to Sugi Sorenson (JPL Mail Stop 301-275, phone 354-1013).

Bridge With Sam

by Sam Dinkin

- ♦ 82
- ♥ A943
- ♦ K54
- ♦ KQ98
- ♦ 76
- ♥ KQT7
- ♦ JT83
- ♦ 763
- ♦ T53
- ♥ 86
- ♦ 9762
- ♦ JT52
- ♦ AKQJ94
- ♦ J52
- ♦ AQ
- ♦ A4
- Vul: None

North	East	South	West
1♦	Pass	4NT	Pass
5♣	Pass	5NT	Pass
6♦	Pass	7NT	All Pass

Opening lead: K♥

pare scores with their opponents. A warm jovial atmosphere makes the game more fun for all those involved and fun is the reason to play bridge.

To digress, after the above auction, South can count six spade tricks, three club tricks, a diamond, a heart, and a red king. South should definitely go on because North could have king third in diamonds; king, queen, jack, and another club; or the heart king and queen. If any of those are the case, a spade break will give thirteen tricks. At worst, the slam will depend on a club break or the diamond finesse.

At our table, however, the auction was more concise and fun. If we cannot give our opponents a good score, at least we can give them a good story. While I was sorting my hand, and trying to figure out whether to open a strong two clubs, my partner opened one club. While I was figuring out what to do after making a strong jump shift to two spades, my left-hand opponent put her cards on the table upside down with the top card, the diamond three, exposed.

The director was called and since everyone at the table had seen it, it became a minor penalty card. This meant that she had to play it at her next legal opportunity. Specifically, if she became the opening leader, she would have to lead the three of diamonds.

My partner needed at least two quick tricks to open, where an ace counts for one, a king-queen combination for one, an ace-queen combination for one and a half and a king for one half. With the three of diamonds as an opening lead, partner does not need the ace of hearts to make the slam. So I bid seven no trump directly over one club. The director said, "I think I will stay around—this should be interesting." I played a round of spades after the opening diamond lead and claimed all the tricks.

Online Schedule of Classes

The Caltech schedule of classes, as published by the Registrar's office, has been added to the online INFO system, accessible via CITnet. A write-up on using the INFO system is available from the CCO Consulting Office, 162 Jorgensen.

Service League Offers Money

The Caltech Service League now has a fund request form. All campus organizations requesting financial aid from the Service League must use this form. The forms are available at the MOSH's office and at Lydia Mathew's office in Parsons-Gates, x6315.

Health Center Spouse Costs

In response to student demand, the Health Center and Counseling Service will make their 1990-91 Spouse Programs available to all students' spouses regardless of their insurance coverage. The fee will be \$50 each term—charged to the student's account—for each program, Medical or Counseling. Therefore, if your spouse enrolls in both programs, it will be \$100 each term. Registration forms for these programs will be available at the Health Center. You may call for details at x6393.

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Soccer Club Shot Down At Nationals

For the first time in its history, the Caltech Soccer Club participated in the National Championship of the National Collegiate Club Soccer Association. The tournament took place in Austin, Texas, on November 16-18, 1990.

Twelve of the best college club teams were competing for the national title. The winner of this tournament would participate in the Collegiate Soccer World Championship held in Las Cruces, New Mexico, against teams such as the 1990 NCAA Division I Champion, 1990 NAIA Champion, and various college teams from Europe and South America.

In the initial round-robin phase of the tournament, the twelve teams were grouped as follows: Group A - U. Texas El Paso, U. Minnesota, U. Colorado Group B - U. Kansas, Caltech, Mankato St. (Minnesota) Group C - Weber St., Rice U., S.W. Louisiana U. Group D - U. Texas Austin, U. Illinois Urbana Champaign, U. Wisconsin Every team arrived well equipped and well coached (for example, U. Texas El Paso was coached by a

1974 World Cup Brazilian soccer player), contrary to the Beavers who, led by manager-coach-player-captain Flavio Noca, had only a brand new set of uniforms to be proud of!

On the first day, Caltech had to face U. Kansas. As the game got underway, the initially nervous Beavers soon realized that they had nothing to fear. The defense, marshalled by John Josephson and Michael Keating in the middle, and by Philippe Geubelle and Scott Josephson on the outside, stifled many of Kansas attacks. Halfway through the first half, Caltech started dominating the field. This domination resulted in a huge opportunity to score as midfielder Flavio Noca was hacked in the box to earn a penalty kick. Unfortunately, the goal keeper saved the ensuing kick. The Techers then lived a long moment of confusion, and, late in the first half, Kansas took advantage of this state of chaos to score (0-1).

In the second half, the Caltech team worked beaverishly to create more chances. The midfield or-

chestrated by Said Boumsellek, Flavio Noca, Mark Drinkwater, and "Sammy", had full command of the game. However, the offense with Art Del Castillo, Salil Patel, and James Ibbetson was unlucky in finding the way to the goal. Eventually, with a few minutes left in the game, Caltech persistence was rewarded as a Kansas defender, in a moment of panic, controlled the ball with his hand in the penalty box. Said Boumsellek was successful in converting the penalty kick to tie the score (1-1). Tournament rules followed a World Cup format which required the game to be decided by a twenty minute overtime followed by a penalty shoot out if necessary. The end of overtime found the teams tied thanks to some crucial saves made by Caltech goalie Petros Koumoutsakos. In the ensuing shoot-out Kansas won as another penalty was missed by the unlucky Beavers.

This was a major psychological blow, which was exacerbated when Mankato and Kansas played out a 5-5 tie (which Mankato won in yet another shoot-out), for this meant

that Caltech had to win by two clear goals against Mankato.

Initially, the game versus Mankato was evenly matched, both sides missing early chances. As the half progressed, Caltech again took full command of the game, but missed one opportunity after another. Hence, the intermission found the teams tied (0-0). In the second half, with the entrance of Todd Small, Eric West, Pahlraic Smythe, and Christian Noiroux, the Beavers established themselves on the Mankato half, bombarding the opposite goal posts. However, on a breakaway and a goalie's mistake, Mankato scored (0-1). Once again, the Beavers battled back. After five minutes, the Mankato goalie failed to trap a dynamite kick by Flavio Noca, and Mike Keating scored on the rebound (1-1). The Beavers launched a final assault which saw the Mankato woodwork rattle four times. This, with the numerous goalmouth scrambles and fine saves from the Mankato keeper, was enough to send the game to extra time and the dreaded shoot-out. This time the Beaver

goalie blocked a penalty shot that enabled Caltech to win the game. But the victory was to no avail: the Beavers were eliminated having scored fewer goals than Kansas and Mankato.

The Caltech team, however, gained the unanimous praise of the opposing players and coaches, and defender John Josephson was even elected to the All-Star Team for his brilliant performance.

The tournament was won by the home team, U. Texas Austin, who defeated U. Illinois in, you have guessed it, a penalty kick shoot-out.

The coachless Caltech team learned many lessons from this tournament, the most important being that they have the raw talent to take on the best club teams in the country. The team hopes to obtain a coach and to win its conference again next year, and why not the National Championship!

Mexico Trip: Rancho Milagro
Wanna go to Mexico for Spring Break? We can have fun, go to the beach, stop at Tijuana... and something else. We can help a Mexican orphanage have clean water. Also spend time playing with the kids, bring them comic books and chocolates, learn to say muy bueno and bueno por sero... If you are interested, call the Y today, at x6163. We will have our first meeting before the break, so look out for banners & flyers.

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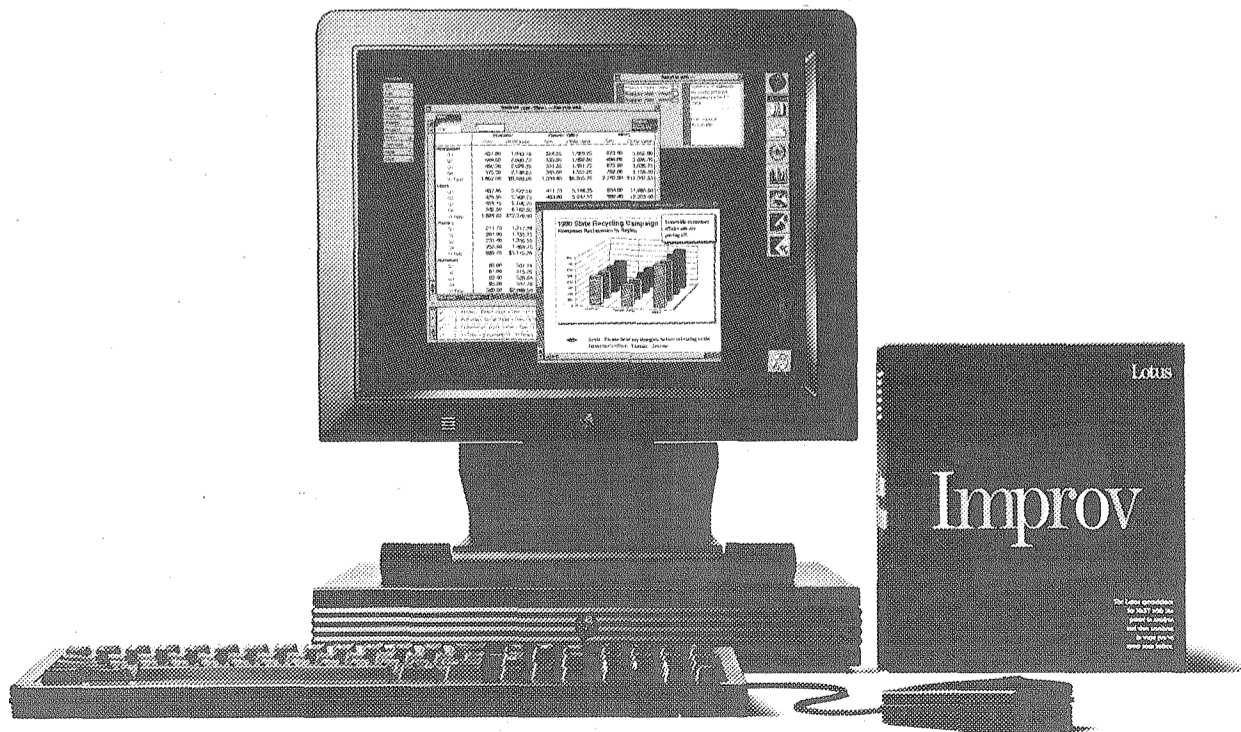
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what goes on

scholarships

Submit announcements for *What Goes On* on forms available outside the *Tech* office (SAC room 40A) and in the copy/mail room (SAC room 37), or use a plain piece of paper. Send announcements to 40-58, or put them in the IN box outside the *Tech* office. Indicate the date(s) the announcement must run. Announcements for the current issue *must* be received by 5 pm Tuesday and should be shorter than 75 words. Announcements will be published as space becomes available and will be chosen according to size and interest to the Caltech community. Announcements for commercial events unrelated to Caltech will not be published.

Float Decoration Scheduled

There will be plenty of opportunities in December to participate in the decoration of the Caltech float in the 1991 Rose Parade. If you are interested in working on the float, please contact Lenore Freise on campus at extension 2188.

The final flowering of the float in the large tent south of the Rose Bowl is scheduled on December 26-30. There will be two shifts each day: 8 am-4 pm and 4 pm-11 pm. On December 31, decorating will begin early and last until the float is complete in the afternoon.

In addition, there will be "dry days" for cutting and separating base materials, such as leaves and seeds, on December 1, 8, and 15, from 8 am to 4 pm. This activity will occur at the Rosemont Pavilion, on the corner of Seco and Rosemont, south of the Rose Bowl.

Summer Undergrad Research

Opportunities in Chemistry and Materials Science, Physics, Environmental Research, Biomedicine, Engineering, Technical Information, Computer Science and Earth Sciences available at Lawrence Livermore National Laboratory.

If interested, please stop by the SURF office, Dabney Rm. 3 for more information. Deadline for applications is December 31. U.S. Citizenship required.

Master's Tea

Hear ye! Hear ye! On December 5th at 3:30 pm, the Master's office will be indulging the undergrads in an array of gooey, rich and delicious cakes. Please come for tea, cake, and a relaxed (but refined) social atmosphere just before the start of finals. (In front of the Master's Office.)

Free Wind Ensemble Concert

This Saturday, December 1, there will be a performance by the fifty members of the Caltech-Occidental Wind Ensemble, directed by William Bing. There will be two guest conductors, Gary Mines and Beth Irikura. Gary is a graduate student at Caltech and Beth is married to graduate student Karl Irikura. There will be music by Leonard Bernstein (Overture to "Candide") and Richard Rodgers (music from the hit musical *Oklahoma*). There will also be music by Handel and Kabalevsky, as well as music featuring the clarinet, percussion, and trumpet sections.

This free concert will take place in Ramo Auditorium, this Saturday at 8:00 pm. You are encouraged to attend and support your fellow classmates in their musical endeavors. There will be a reception following the concert.

New Course in Aero

During spring term, engineers from Boeing Vertol company will give seminars on the V-22 Osprey Tiltrotor aircraft. The organizational meeting will be held in 269 Lauritsen on Monday, January 7 at 4 pm. Please note that undergraduate students can register for units (graduate status is *not* a requisite—the Caltech catalog is *wrong* again). For information, call Patrick, x4789.

GSC Noon Talk

The GSC is sponsoring a noon talk on Friday, November 30 about graduate student unions and the legal status of graduate students. Karen Licavoli, an officer of the Berkeley Student Union, will outline the history and current status of graduate student unions at Berkeley and elsewhere. An informal question and answer dialog will be held afterwards. The talk will be held in Dabney Gardens.

Flip Your Way To Roses

Come check out the Pinball Contest this week in the SAC Gameroom. Winner takes home 2 tickets to the Rose Parade (a \$50 value).

Gay/Lesbian/Bisexual Discussion

This discussion group meets the 1st and 3rd Tuesdays of each month from 7:30-9:30 pm in the Health Center. This confidential meeting is open to *all* members of the Caltech community. The first hour is open to discussion of a specific topic, and the remaining hour is open for general conversation and socializing. Refreshments are served. For information please call 356-8331. Note: there will be a meeting on 12/4, but not on 12/18 or 1/1/91.

Caltech's Own Bowl Game

This Saturday, December 1, 1990, your Caltech Beavers football team will play the Pasadena Police Association in the 6th Annual Toy Bowl at Fox Stanton Stadium. Kickoff is 12 noon and suggested admission is one unwrapped toy. Come cheer for your Beavers!

Decompression is Coming!!!

Saturday and Sunday, December 8-9, 8:00 pm to midnight. Saturday, enjoy movies and Gerry Hart, magician/comedian. Sunday will be the return of "The Dating Game" and more movies. The Caltech Y is looking for students to volunteer for two-hour time slots either or both nights. (A free t-shirt will be given to those who sign up for at least two hours.) Sign up today!

Bad Weather Shelter

The Caltech Y is once again organizing a team of motivated volunteers (4-5 persons) to be on call at a local Bad Weather Shelter, on Lake Ave., every other Saturday night from 9:30 pm to 11:00 pm, with at least two persons remaining overnight until 7:00 am. You will be called on to serve only if the temperature is expected to be below 40 degrees Fahrenheit or if there is a forecast for rain. Stop by the Caltech Y for more information and to sign up today!!

Soviet Scientific Freedom

On Wednesday, Dec. 5 at 4 pm in the Judy Library in Baxter, there will be a talk by Professor Aleksey B. Kozhevnikov of the USSR Academy of Sciences on "Scientific Freedom and the Soviet State: The Case of Piotr Kapitza." This talk is part of the series on Science, Ethics and Public Policy. Refreshments will be served.

Scholarship Listings

The Financial Aid Office has applications and/or information on the following scholarships. All qualified students are encouraged to apply. Our office is located at 515 S. Wilson, second floor.

The National Space Club will award a \$7,500 scholarship for the academic year 1991-92. The scholarship is in memory of Dr. Robert H. Goddard, America's rocket pioneer. Applicants must be U.S. citizens in at least their junior year and have the intention of pursuing undergraduate or graduate studies in science or engineering. The deadline to apply is January 4, 1991.

The Josephine de Karman Fellowship Trust has announced the availability of ten fellowships of \$6,000 each for 1991-92. The fellowships are available to students entering their senior undergraduate year and graduate students entering the terminal year of graduate school in the fall of 1991. The deadline to apply is January 31, 1991.

Truman Scholarship

The Harry S. Truman Scholarship Foundation awards scholarships to juniors who have outstanding leadership potential and intend to pursue careers in public service.

If interested please stop by the Dean of Students Office, 102 Parsons-Gates, for more information. Deadline is December 1, 1990.

Attention Aero Students!

Applications for the AIAA/Industry Scholarship program are now available. These are \$1000 renewable scholarships. Last year odds for getting a scholarship were 1 in 2! Check the AIAA table or call 792-1513.

Adversity Scholarship

The Financial Aid Office announces the establishment of a new scholarship that recognizes students who have overcome severe personal adversity/misfortune. Interested students should submit a 1-2 page autobiographical statement describing their individual circumstances. In addition, two corroborative letters from persons familiar with the student and the circumstances involved are requested. The scholarship is open to sophomores, juniors and seniors who are U.S. citizens or permanent residents and who will apply for or have received financial aid for the 1990-91 academic year. If the student is a recipient of financial aid, this scholarship will reduce the loan and/or work-study portion(s) of his/her 1990-91 financial aid award. The deadline to submit the autobiographical statement and letters of recommendation to the Financial Aid Office is 5:00 pm, Friday, November 30.

Geology \$\$\$

Undergraduates in the Division of Geological and Planetary Sciences are encouraged to apply for the Fritz B. Burns Prize in Geology. The award(s) will be made for amounts up to \$2,500 for the best proposals for undergraduate research in the fields represented by the Division.

If you are interested in this opportunity, please write a short statement (less than one page) describing the research you would like to do. Selections will be made in February, 1991. The proposed research can be loosely or closely tied to that of a Division faculty member. Deadline: January 15, 1991. Send proposals to Professor Kerry Sieh, Divisional Academic Officer, Division of Geological and Planetary Sciences, Mail Stop 252-21.

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FREE WORLD TRAVEL

Hi-Tech Basketball

by Lanny Boswell

Last weekend the battl'n Beaver basketball team blazed it's way to victory in the first annual Hi-Tech Tournament with wins over Holy Names and Arizona College of the Bible.

Friday night's action began with a 75 to 73 win for Arizona College of the Bible over California Maritime, starting a streak of close games (Three of the four games were won by less than a four point margin.) In the second game, the Beavers edged by Holy Names with a score of 59-58.

The game's leading scorers were Big Bad Bill Swanson with twenty points, and both Larry Ahle and Dan Flees with eleven points. Bill was also the leading rebounder with twelve, followed by John Philapakkos with eight and Larry Ahle with seven (isn't he a guard?)

Holy Names bounced back from a defeat on Friday to beat Cal Maritime for third place, in the first game Saturday. The Championship game followed with the Beavers facing Arizona College of the Bible. In a stirring 74-71 victory the Beaver's claimed first place in the tournament.

Larry Ahle came alive with twenty-one points (including five three-pointers), seven rebounds (are you sure he's a guard?) and six

assists. Big Bill led the scoring with twenty-five points and eleven boards. Freshman John Parks showed his ability with fourteen points, while late arrival Dan Flees scored nine points with seven boards.

Following the championship game the all-tournament team was announced and included senior guard Larry Ahle. Bill Swanson was chosen Most Valueable Player for the tournament. Bill had forty-five points and twenty-three rebounds over the weekend, leading the team in both categories.

Larry Ahle had thirty-two points, eleven assists, and fourteen rebounds (he is a guard!) Other impressive stats include John Parks with twenty-two points, nine rebounds; Dan Flees with twenty points, twelve rebounds; John Philapakkos with eleven boards; and Dan Kollmorgan with 100% of his shots blocked. (He wanted you to know.)

This weekend the Beavers travel to Santa Cruz for a weekend tournament and will return for home games the following weekend. Come and support the home team next weekend and until then remember: When you leave the gym go through the door, not the wall. It's much less painful.

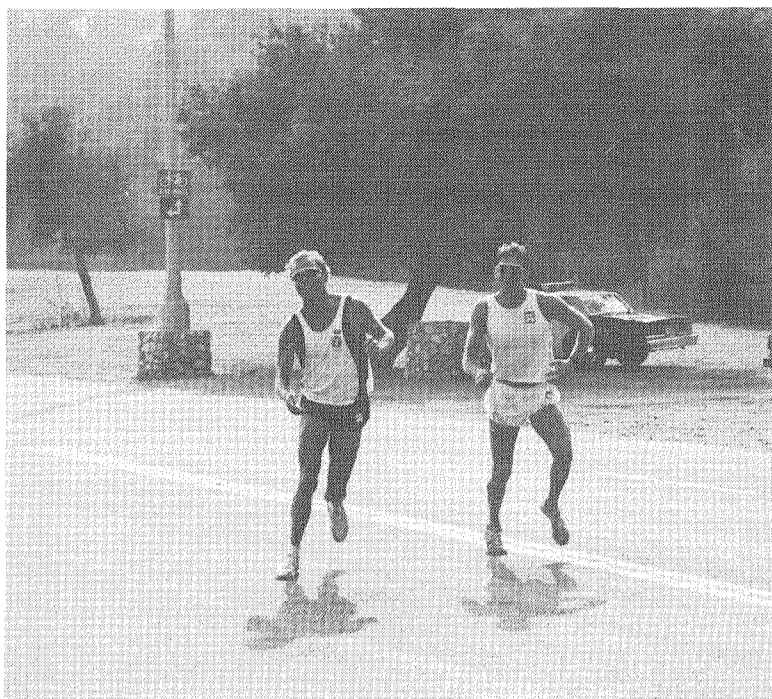


photo by Hampden Kuhns

Craig Reynolds (left) and Al Bates fight each other off at the finish of the biathlon. The judge declared the race a dead heat.

Biathlon

from page 1

Craig and his training partner Al Bates dominated the race and were side-by-side through the whole event. The pair eased through the first 3.05-mile run in a time of 16:06, easily ahead of the rest of the field. Next in off the first run was another one of Craig's pals, Mike Cramer. Although Craig and his friends would sweep the top four spots for final placings,

teacher Chris Campo managed to come in with the fourth fastest time off the first run (16:57). Just behind Chris was the fourth member of the Craig Reynolds Masochist Squad, Troy Gielish.

One minute back from the first five runners, a pack made up of undergrad Mark Lyttle, JPLer Mark Vincent, and undergrad John Pham rumbled into the transition area at around 18 minutes.

As the first two waves of competitors began making their way through the 18.3-mile bike course, a third wave came in off the run. Assistant Caltech Professor John Doyle, undergrad Tim Wachholz, JPL's Roy Kakuda and undergrad Ned "hairdo on the line" Bowden, and JPL's Steve Matousek entered the transition area around 19 minutes.

While runners continued to trickle in, the bike race was well under way. Craig Reynolds and Al Bates motored along at 24.5 miles/hour in the lead but were chased by Masochist Troy Gielish. Losing ground to the trio of cycle-hammerers but well ahead of the rest of the field was the fourth Masochist, Mike Cramer.

But behind Craig and his studly buddies, a heated battle was going on among the Techers and the JPLers in the race. John Pham, determined to shave Ned Bowden's head, shot through the bike course, averaging 22.2 miles/hour. Pham and Vincent blew past Chris "slow man on the bike" Campo and pedalled toward the finish.

First off the bike, though, were Craig and Al. Their buddy, Troy Gielish, had blazed through the bike segment in an attempt to catch the duo with the fastest bike split of the day (24.8 miles/hour). "I'm coming for you, Al!" Gielish belted upon entering the transition area. AL, however, didn't have much to worry about. Gielish's running ability was "somewhat less" than that of Al and Craig, and so while the pair finished together

first (in 1:18:45), Troy came in two minutes behind them. Maybe next time, Troy.

Mike Cramer rounded out the Masochists, coming in off the second run at 1:24:02.

The first non-Masochist of the day was John "hairdresser" Pham. Pham had a fantastic bike split as well as a respectable second run, and finished in 1:27:03. Chris Campo, battling his way past Mark Vincent on the second run, was still unable to come anywhere near Pham. Campo finished sixth, two minutes behind "The Hairdresser."

Behind Campo came the block of JPL competitors: Mark Vincent, Steve Matousek and Roy Kakuda. The JPLers thus took 7th, 8th and 9th places.

In tenth place, seven minutes behind John Pham, came Ned "hairdo" Bowden. Bowden didn't have a pleasant time on the bike, and commented afterward, "Let's get rid of the biking part of it. My ass hurt so much after the bike, I was in horrible pain."

Two minutes back from the hapless Bowden, the only relay team of the day finished. Undergrad Amy Hansen ran and her fellow Ruddock House member John Krowas cycled. Amy had the tenth fastest split for the second run and Krowas blazed on the bike for the sixth fastest cycling split. Grad student Dan Jones, from Coach O'Brien's triathlon class, finished behind Amy and John.

Coming in at the 12th and 13th spots were John Doyle and Tim Wachholz, respectively. Remarkably, Tim had made a water stop on every 3.05-mile lap of the bike course and had still managed to out-cycle Doyle. Just as amazingly, Doyle spent nearly four minutes in the transition area after the biking portion and still managed to pass Wachholz on the second run. Doyle's feat is all the more startling when one considers that Wachholz spent hardly anytime at all in the transition area before heading out on the second run.

Mark Lyttle, unfortunately, had a flat tire on the first lap of the bike course and did not finish. Lyttle, who also dropped out of last spring's Caltech Sports Day Triathlon, said "Let's have another race next weekend. I wanna finish one of these!"

A large number of spectators came to cheer on the competitors, and free sandwiches, coke, bananas and cookies were available for everyone. There will probably be another Caltech/Homeboy event next term with FREE FOOD, so please come next time if you didn't this time. Everyone (even Ned) had a good time.

For the record, Fleming House wins the "most in attendance" award at the biathlon with 4 Flems competing and at least 5 Flems watching the event. In the Page House Inside World recently, it has been asserted that Page is the studliest athletic house at Caltech. Where were they???

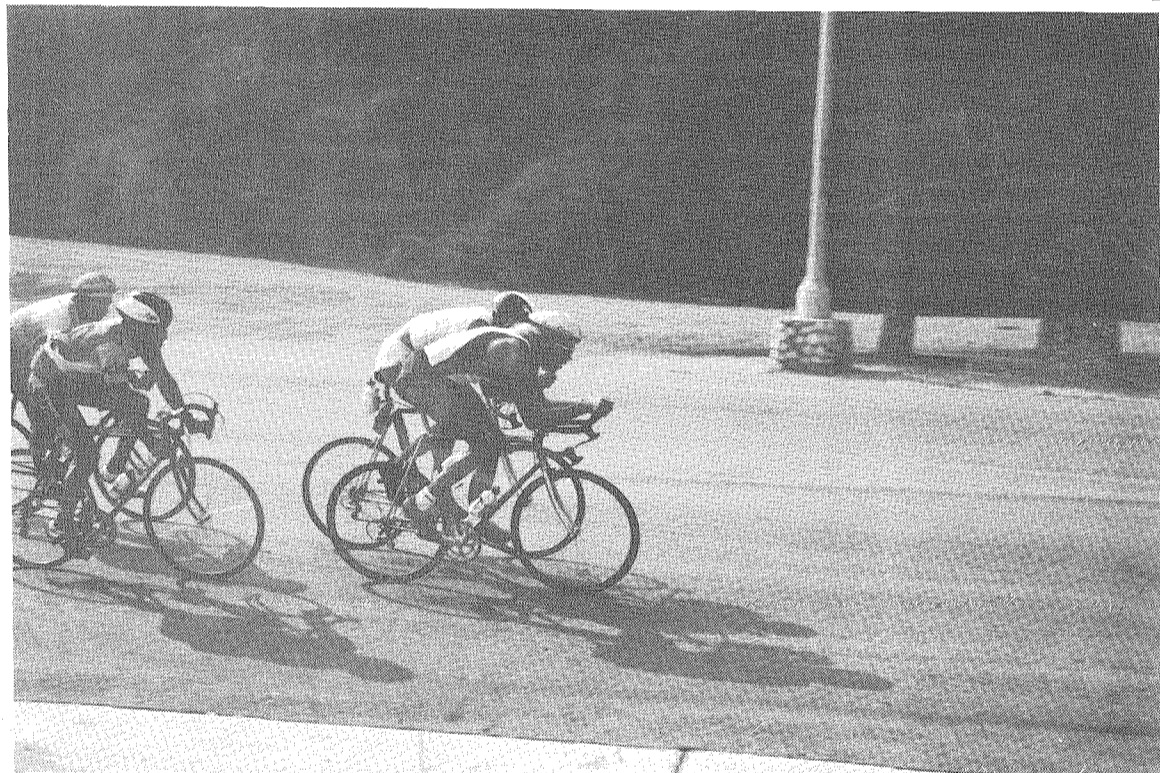


photo by Hampden Kuhns

Craig Reynolds (number 2) and Al Bates (to Craig's left) easily won the first annual Caltech Biathlon.

WEEKLY SPORTS RESULTS

Day	Date	Sport	Opponent	Results
Sat.	11-17	Football	Southern California Storm	25-29
Fri.	11-23	Basketball	Holy Names	59-58
Sat.	11-24	Basketball	Ariz. College of the Bible	71-74 (Championship game Hi-Tech Tournament)

WEEKLY SPORTS CALENDAR

Day	Date	Time	Sport	Opponent	Location
Fri.	11-30	TBA	Basketball (V)	Santa Cruz Invitational	Santa Cruz
Sat.	12-1	TBA	Basketball (V)	Santa Cruz Invitational	Santa Cruz
Sat.	12-1	12:00 noon	Football	Pasadena Police "Toy Bowl"	Caltech
Sun.	12-2	11:30 am	Ice Hockey	San Diego State	Pasadena
Fri.	12-7	7:30 pm	Basketball (V)	L.I.F.E. College	Caltech
Sat.	12-8	7:30 pm	Basketball (V)	Latin American Bible Institute	Caltech



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