Sunney Chan Wins Travel Award

The Future of Art History

Superstrings and a Unified Field Theory

ASCIT ELECTION RESULTS

IBM Lavishes $1,000,000 on Tech

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ASCIT ELECTION RESULTS

IBM Lavishes $1,000,000 on Tech
Letters to the Editor

Bruce Kahl

To the Editors:

I was pleased to be interviewed by Mr. Blume last week and had looked forward to his article on the Counseling Service, especially as it might inform more students of our purpose and functions. I was very much disappointed, then, by the headline which appeared over the story. When I tried to make clear during the interview—and with considerable emphasis—the "Screw Loose" title negated—that is because an individual seeks counseling does not mean he or she is crazy, as much as that unfortunate stereotype still exists. I also tried to make clear that the Counseling Service is a place for Caltech students to explore, understand, and resolve their problems in the context of a special, confidential, secure relationship with the counselor. My hope is that students at Caltech may view the Counseling Service as an important resource for them in their education. I am pleased to point out that the editors will show more sensitivity to their material and their problems in the future.

Sincerely,

L. Bruce Kahl, M.D.
Director, Counseling Service

Humanities

To the Editors:

The Caltech, fortunate enough to be blessed with one of the finest Humanities departments in the country, on the basis of the entire course catalog reveals such excellent courses as Art 101, Selective Topics in Anthropology; H 125, American Radicalism, L1 10, Sexual Identity in Literature, and LF 140, Twain and James. Surely any student who would leap at the chance to take one of these courses. He would run into one problem, however. They weren't taught this year. Nor were they taught last year. Or the year before that. Or the year before that.

In fact, these courses have been offered for the past 3 years. Any questions, comments, or ideas?

Thomas Blum

It was never the intention of the editors to perpetuate the "counselors are for crazy people" myth. It was precisely because we recognized that the entire campus would benefit greatly by exposure to the counseling services that we gave the Bruce Kahl interview such prominence. Our selections of headline and photo caption were made with the objective of dispelling any anxiety or stigma through a little levity. If in doing so, we have offended anyone, we apologize. —Eds.

Uranus Photos

To the Editors:

Congratulations on your centerfold spread in the January 31 edition of The Caltech. The article on Uranus by Clancy and Nick Smith did the best job I have yet seen in illustrating some of the spectacular images obtained by Voyager 2 of the Uranus system and, at the same time, putting them in an understandable context.

F. H. Felberg
Associated Director, JPL

Stefan Zweig's "Confessions"

To the Editors:

I was very disappointed in the headline which glared over the story. What pointed, then, by the headline of "Confessions of a Napoleonic Woman"—the sneaky part of the title negated—is that Zweig offered "the only game in town." According to a recent report by the Council on Economic Priorities, funds earned for "innovative" research, awarded primarily to universities, will quadruple in FY 1986 to $100 million. Pentagon funding for defense projects at universities has increased 99% in the last five years. Today, incredibly, this constricts sixteen percent of all federally funded university research—"the same share received by universities during the height of the Vietnam War."

MIT and its off-campus Lincoln Laboratory, for example, in FY 1985 received a whopping 59% of all its research funds from DoD, at least one fifth of which went to SDSI. Across the nation, some 43 other schools have also received Pentagon Star Wars contracts. Such a rapid increase shows that universities have become the next targeted areas.

What this means is that universities, traditionally a major source of unsolved scientific research, are becoming more and more dependent on the Department of Defense. The Pentagon is supplying as much as half of all federal funds for mathematics and computer sciences, effectively putting in charge of those disciplines which are key in the development of high technology. Given the Pentagon's spot record on quality and cost control, this will ultimately hurt U.S. technological growth and competitiveness.

More than 2600 faculty members have just signed a petition calling the Star Wars project "deeply misguided and disastrous." Hans Bethe of Cornell and Philip Morrison of MIT, Opposition to the "invasion of academia" by the Pentagon is growing nationwide. Students, faculty, and the public everywhere who should join in making their views heard on this important issue.

Sincerely,

Rory Nitore
Director, Council on Economic Priorities

Stefan Zweig's "Confessions"

To the Editors:

...the year before that.

...the year before that.

...the year before that.

Greg Susca

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Strings

have revealed a large number of particles that seem to be elementary,
meaning that they are not made up of anything else. According
to quantum mechanics, the main role of one group of these particles, the gauge particles, is to
transmit forces between other par­
ticles. This particles and forces are deeply interconnected, and an
understanding of the other.

Gravity and electromagnetism are two of the most important forces in everyday experience. But there are
more the weak nuclear force and the strong nuclear force, and possibly others that are less familiar. Because they occur only at
nuclear or subnuclear levels. Each of
these various forces is carried by
specific gauge particles. When the
sun lights the Earth, the energy is
transmitted from the one celestial
body to the other by photons, the
gauge particle of electromagnetism. And when the Earth
attracts the moon, the two ex­
change gravitons, the gauge parti­
icle for gravity.

Thus, in the context of quantum
mechanics, Einstein's theory can be viewed as the theory of a specific elementary particle, the graviton. But although his general theory of
relativity is very beautiful and suc­
cessful, it falls apart when one tries
to interpret it quantum mechan­i­

cally. One approach is to carry
Einstein's gravity theory to "in­
finity," answers that are as absurd
as the results you get if you try to
divide a number by zero. In the
language of the mathematician's
calculations diverge, or more
descriptively, blow up. This ap­

parent clash between gravity and
quantum mechanics is the most
severe obstacle that has arisen in at­
tempts to construct a unified field
theory. We have found uniting principles that apply to all the other
forces. Only gravity, the force
described by Newton and Einstein,
is still a holdout. A likely reason
for this may be found in the most
basic premises of the field theory.
In the theory, gravitons, the elementary particles of gravity, are
described as mathematical points.
having no dimension what­
soever. This is the origin of the fundamental
problems in previous quantum
theories of gravity. The late
physicist Joel Scherk and I pro­
posed that elementary particles are
made up of something more than
dimensional curves called strings.
Their lengths vary depending on the

circumstances, but their typical
dimensions are the Planck length.

This is a difficult calculation, but
the physicist's most useful tools.

Mathematical symmetries are
to the elementary particles we
notice between common objects

and all other elementary particles.

1. We recommend that an
introductory social sciences be of­
ered consistently each term.

Since all students must take 18
units, it is impossible to offer all
the required courses on this schedule.

2. We recommend that courses
in the humanities and social

sciences be offered at certain block
offerings is an advantage to the

students. Particularly, courses in
psychology and anthropology are
not offered each term.

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Strings

from page 3

much larger than the other six. The particles of each class are equally powerful at extremely high energy levels or temperatures but differ enormously in behavior under ordinary circumstances.

Supersymmetry is a symmetry under which the two major classes of subatomic particles can be mathematically interchanged. These two classes are known as fermions and bosons. Fermions include the particles known as quarks and leptons. (The electron is an example of a lepton, whereas the proton is made out of three quarks.) The fermions, which include gauge particles and is differentiated from fermions by a property physicists call spin.

According to supersymmetry, each boson and fermion should have a partner among the opposite class of subatomic particles. Which fermions form new and which boson? The obvious first guess is the gauge bosons are the symmetry partners of the quarks and leptons. But that does not work; they do not pair up neatly. Instead, it is necessary to postulate the existence of new particles to serve as partners for each known particle. The hypothetical fermion partners of the gauge particles are given the general name of gauginos, with more specific names for specific cases. For example, the partner of the photon is called the photino. The bosonic partners or quarks and leptons are generically called squarks and sleptons. The partner of the quark is called the antiquark, and the partner of the lepton is the antilepton. (I am proud to say that I am not responsible for this clanging.) The gravitino is the supersymmetry partner of the graviton, the gauge boson that carries gravity.

The experimental search for the supersymmetry partners of fermions is being vigorously pursued. But meanwhile, supersymmetry promises to be explicitly useful in providing a theoretical framework for understanding quantum mechanical inconsistencies called anomalies. However, this circulation only works with two particular versions of the theory. These versions are named for their “symmetry groups,” the specific kind of symmetry that an individual theory obeys. The two particular symmetry groups that word for supersymmetry theory are designated in mathematical lingo, SO(32) and E8.

These symmetries are all encompassing: All known elementary-particle symmetries can be contained in either one of them. We presented a supersymmetry theory containing both open and closed strings with the SO(32) symmetry and gave evidence that it is free from anomalies and infinities. A few months later, two new supersymmetry theories containing only closed strings, one with E8Es symmetry and a second example with SO(32) symmetry, were formulated by David Gross, Jeffrey Harvey, Emil Martinec, and Ryan Rohm at Princeton University. These developments have created great excitement in the theoretical physics community. For the first time, it has been demonstrated that requiring a consistent unification with gravity can resolve many of the ambiguities that have plagued quantum field theory. Not only are the two allowed symmetry groups determined, but so is the complete spectrum of elementary particles, all their interactions, and even the dimensionality of space and time. A great deal of work is still required to relate supersymmetry to phenomena observed in the laboratory. However, largely due to numerous insights of Edward Witten at Princeton University, the phenomenon of supersymmetries is progressing rapidly. The prospects, especially for the E8Es theory, appear extremely bright. A crucial step is to deduce a detailed geometric description of the six or seven compact dimensions. This effort is pushing at the frontiers of mathematics and is resulting in a level of communication between physicists and mathematicians unprecedented in recent times. The E8Es theory has some fascinating implications. Each Ei identifies a separate symmetry group. One group gives rise to all known particles and forces; the second Ei gives particles and forces that are hidden from observation. It is difficult to be very specific about the properties of the resulting particle theories at this time, but if the pattern turned out to be the same for both of the Ei groups, there would be some amazing consequences. All observable elementary particles would be duplicated by invisible counterparts—“shadow matter.” Invisible planets, stars, and galaxies made of shadow matter would exist. The only way in which shadow matter could be detected would be through its gravitational pull, odd effects on the movement of stars or the bending of light passing close to an invisible galaxy. Astrophysicists have long known that several types of invisible “dark matter” must occur in the cosmos to account for various observed properties of galaxies. Matter associated with the second Ei could be one of its important components.

The theory of supersymmetry is about to enter the period of experimental confirmation and the consequences from the calculations. The two particular symmetry groups, SO(32) and E8, give evidence that they can circumvent anomalies. For example, the partner of the graviton has a partner, and the partner of the gravitino is the gravitino. (I am proud to say that I am not responsible for this clanging.) The gravitino is the supersymmetry partner of the graviton, the gauge boson that carries gravity.

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Sports Day Sunday

Preparations continue for the 1986 Sports Day, which will be held Sunday, the February 16. The activities are sponsored by the Master's office, and will begin at 10:30 with soccer, tennis, and volleyball. Following a free lunch at noon on the lawn north of the gym, activities will resume with softball at 1:00, and basketball, swimming, and ultimate frisbee at 3:30. The day will conclude with a tug-of-war at 2:30, and a polyathlon at 3:50.

The polyathlon will consist of a series of four events for each team of three people. The first three events will be bike-riding, swimming, and beer drinking. Each team member will do one of these events. The final event of the polyathlon will be a four-legged race with all three team members.

Approximately 100 alumni are expected to participate as well as many students and faculty. Chris Brennen, Master of Student Houses, stressed the fact that there is no need to sign up in advance, and that an informal atmosphere will prevail.

Strings from page 4

kinds of particles with very specific properties. Unfortunately, small dimensions, like small particles, must be investigated in machines that employ enormous amounts of energy. The extra dimensions are probably so small that the energy required to explore them is far beyond what will be available to us in the foreseeable future.

But other things can be proved or disproved. The search for partners for each fermion and boson, as predicted by supersymmetry, is proceeding full blast. There are reasons for believing that their masses could be observed in existing or soon to be completed proton colliders. Hints of such particles in recent experiments are tantalizing. The confirmation of supersymmetry would be one of the most important discoveries in the history of modern physics.

Physicists have long had the dream of someday being able to understand mass and other properties of elementary particles from first principles. They are anxious to understand the structure of space and time at the tiniest distances and to know the reason for the existence of a very wide range of fundamental lengths ranging from the Plank length to the radius of the universe. There seems to be a good chance that, with the development of superstring theories, we are closing in on the answers to all these questions and more.

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collegiate crossword

Start with a job as big as your ambitions. Lead the Adventure as a Navy Officer. The Navy adventure reaches into space, down beneath the sea and inland from Hong Kong to Italy and back again. It's high tech, highly skilled and challenging world. A world where your leadership as a Navy Officer can be pivotal. There is no boot camp, college graduate gets leadership and management training at Officer Candidate School. Plus further educational opportunities, once you're commissioned. You'll be the best and brightest in your field. And you gain the responsibility and decision-making authority you need to succeed. The challenge, satisfaction and rewards add up to personal and professional growth no other service can offer.

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We’re giving away up to 70 Hawaiian vacations for two, including airfare and hotel accommodations for the week. And if you’re a lucky winner, you can use your two tickets to paradise any time.

Contest runs from February 3rd through March 26th. So unless you’d rather not spend your break sunning, surfing and sipping tropical drinks, get your rear into In-N-Out today.

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THE CALIFORNIA TECH
Dear BLOOM COUNTY Reader:

Berke Breathed has been injured in the crash of his ultralight airplane in New Mexico, but is in good condition after surgery. He is expected to be out of action from four to eight weeks.

In the interim, he has suggested that his newspaper clients receive previously published but not widely distributed strips, daily and Sunday. We are enclosing daily strips for the two-week period, Feb. 10-22.

We and Berke apologize for the inconvenience, and thank you for your understanding and messages of support.

Wm. B. Dickinson
Editorial Director
Washington Post Writers Group

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Art History

from page 1
time lecturers. The lecturers may include professors from other universities, unemployed academicians, or even Jay Belloli if he has the time he is planning to set up a new gallery in Pasadena. The recommendation includes Dr. Wark's course as well as a full-year survey of the history of Western art, two advanced courses in Western art, and two courses in non-Western art. Presently there are no courses in non-Western art, so the proposal won't drink if you don't lead it to water. One can only hope that a humanities requirement, however, not to the more specific 36-unit humanities requirement, however. Also, fusing Oxy courses into one's schedule is difficult because they usually meet four times a week, and Art Center courses are notoriously time-consuming.

Art courses have been popular in the past and, in my experience, very rewarding. It would be a shame if Techers were deprived of easy access to such courses; a horse won't drink if you don't lead it to water. One can only hope that a significant number of attractive courses will continue to be offered here in the future.

BLOOM COUNTY
by Berke Breathed

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**The Inside World**

**Fleming:** The Page House Story: Once upon a time, Rambo moved into Page House and got himself a following of half-witted soldiers of fortune, which endeared him much to the rest of the Boys. Then he got them all syndicated and began with the moronic maneuvers campus wide, winning respect and admiration at every turn.

The Fleming House Story: Once upon a time, Chaz moved into Page House and got himself a following of half-witted soldiers of fortune, which endeared him much to the rest of the Boys. Then he got them all syndicated and began with the moronic maneuvers campus wide, winning respect and admiration at every turn.

The Fleming House Story: Once upon a time, Chaz moved into Page House and got himself a following of half-witted soldiers of fortune, which endeared him much to the rest of the Boys. Then he got them all syndicated and began with the moronic maneuvers campus wide, winning respect and admiration at every turn.

In the news: Fred aced (?) his Chem I midterm after not going to class all term—what a blaze. Last Friday was a party night. Rudds finally showered Spaz for his birthday; everyone had his own special way of celebrating. Some watched a dirty movie, but the people blocked into Dancin's room mayor may not have had the most fun. No one talked, but Cynthia was good, too, don't you think, Craig?

**Taney**

**Ruddock:** The original Inside World is back, and bigger and better than ever! What's happening in the house? Inquiring Techers want to know. Are house elections open or closed? Who will be the new house BOC rep? How long has Mark Vagins been awake? What is the secret relationship between Ed and Vito? These and many other questions won't be answered, so there.

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Winnett Lounge

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**Fleming:** The Page House Story: Once upon a time, Rambo moved into Page House and got himself a following of half-witted soldiers of fortune, which endeared him much to the rest of the Boys. Then he got them all syndicated and began with the moronic maneuvers campus wide, winning respect and admiration at every turn.

**Dahney:** The following is the text of the statement made yesterday by Larry J. "Bud" Hansen, Dabney House Deputy Pres. Minister:

Due to the election problems, the House ordered a news blackout effective 1 February 86. The blackout was to remain in effect until

"Be a man, not a sap; skip the band, use the flap." Baffled?

Right.

compan¥
Science, Art, Kismet

A recent article appearing in the Los Angeles Times compared fifty of the world's great scientists to artists. The analogy was based on the premise that both artists and scientists begin by visualizing a form that has not previously existed and then creating that form to fill the void.

Liz Oberstein, who teaches modern dance here at Caltech, has found proof of this analogy in her students and particularly in working with the Caltech-JPL community as choreographer for TACIT's production of Kismet. When Liz was asked to work on the choreography for Kismet, she was excited about the opportunity. She was already familiar with the music and knew that the elements contained in the music and imagery complemented her background and interests in modern dance.

Kismet offers unique opportunities for the choreographer and the dancer as several characters are completely developed through the medium of dance. The characters of the Ababa princesses, three Amazonian maidens brought in to wed the Caliph, for example, are entirely developed through their athletic, war-like dances. The Ababu princesses, three seductively hypnotizing and seducing their guards. Although several sets of motion are simultaneously occurring on stage their common goal unites them in a visually and emotionally exciting realization of the scene.

In creating the dances for Kismet, Liz said that she listened carefully to the music but did not choreograph the dances measure by measure. Rather, she created each dance separately and then fit it back into the music, paring off or adding on when necessary. Not choreographing note for note - "micky-mousing it" as she calls it - allows each dance to be conceived and learned as a whole on its own and encourages participation of the dancers in the choreography.

The participation of the dancers has been the key in Liz's choreography. Although she initially wanted to have all of the dances planned before she actually started rehearsing, she soon found that the creative energy of the dancers was good for building collective ideas. As Liz put it, "It's been very exciting for me to collaborate with people whose lives evolve in a scientific community. People have been very receptive to my ideas; my ideas have all fallen on fertile ground." Liz again stresses the analogy between artist and scientist: "There is a common ground... a basic intelligence tying us together."

Liz Oberstein, a modern dance instructor at Caltech, directs TACIT's most recent production - Kismet.
You’ll Love the F/X

by Nick Smith

FIX
Orion Pictures
Directed by Robert Mandel

If you want somebody killed, you hire a professional killer, right? Well, who do you hire if you want to convince people you’ve killed someone, without actually doing it? You hire the best movie special effects technician you can find, according to the premise of FIX.

Bryan Brown plays Rollie Tyler, a wizard at creating fake scenes of mayhem in horror movies. He’s approached by the Justice Department to stage a fake killing in a public restaurant. The whole thing is being done to protect a mobster who has turned government witness. Well, the money’s right, and a few quahs over the circumstances are easily overcome by Rollie. What could go wrong? A lot, and FIX becomes an exciting adventure movie, along with providing more ideas for great RF’s than Real Genies.

Brian Dennehy (the alien leader from Cocoon) plays a tough, unstoppable police detective who finds himself in a baffling case. Mason Adams (he played Charlie on Lou Grant) is the Justice Department chief who pulls the strings. Rollie finds himself caught up in a bizarre web of plots, murders, and “murders”, one in which Rollie is considered a loose end to be tied up. Permanently. A lot of other good actors and actresses make appearances, but they might as well be scenery compared to Brown, Dennehy and Adams.

Robert Megginson and Gregory Fleeman turned in a script with remarkably few plot holes, and those few are explainable. The visual effects and photography were well done, making almost every special effect convincing. The only flaw here is that, just like in the old Mission Impossible episodes, they faked a couple of scenes that involved full facial masks. A pity, because the other effects were good, especially when Rollie created one effect that he couldn’t tell from the real thing. FIX uses a few standard plot lines, questioning the morality of protecting a bad guy who changes sides, the safety of giving the Justice Department carte blanche in dealing with organized crime, and the politics of police departments, where a polite hack is more successful than an abrasive supercop. Still, the whole thing is put together well, and sustains a high level of suspense throughout. The moral of FIX: never get a special effects man mad. Go see it.

The earth will stand still tomorrow when the Southern California Skeptics present “The UFO Verdict: Examining the Evidence.” See announce ment on last page.

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Campus Career Fair
Thursday, February 20

I.C. Design Engineers should plan on meeting with our representatives at the Career Fair on campus Thursday, February 20 to find out about our exciting plans and the opportunities they can mean for you. Not only are we adding I.C. Design Engineers to the staff of our Silicon Valley headquarters, but we have opportunities available for: Product Engineers, Hardware Engineers, Test Engineers and Software Engineers as well as for Process Engineers at our state-of-the-art Class 10 wafer fabrication facility in Nampa, Idaho.

For more information check with your placement office, or if unable to meet with us, please send your resume to: Zilog Inc., Professional Staffing, Dept. CTI, 1315 Dell Avenue, Campbell, CA 95008.

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Mafia Film to be Shown in Baxter

Concile Cascino, a documentary film about the poverty in Palermo, Sicily, and its relationship to the Mafia there, will be shown in Baxter Lecture Hall Thursday, February 20. The movie will begin at 7:30, and is being presented in conjunction with Professor Robert Rosenstone's history class in documentary film making. The class is being taught in cooperation with Melon Lecturer, Jill Godmilow.

This film was originally made in 1961 for an "NBC White Paper," but was never released by the network due to its politically sensitive nature. The director of the film, Bob Young will make a personal appearance.

Young has won numerous awards for his film work, including the Peabody Award for the films Sit-in and Angola: Journey to a War. Other films include Nothing but a Man and the well-known prison documentary Short Eyes.

For more information, call x6624 at the Public Relations Office.

Investment Fund

The Student Investment Fund will disburse up to about $4,000 for projects of broad interest to the students. The disbursements should not be used for the furtherance of any political course or making up any deficit incurred, nor for funding scholarships. Instead they should preferably be used for capital investments.

Please submit proposals to Sing Ung Wong 222 S. Chester Ave. Pasadena, CA 91106 Attn: SIF Disbursements Call Sing Ung at x6180 or talk to any SIF member for details.

Real Genius Screening

Director Martha Coolidge and other people affiliated with the filming of Real Genius will attend a screening of the movie at USC and hope lots of Tectors will attend. The screening will be Tuesday, February 18 at 9:30 p.m. in Norris Cinema Theatre. DKA, the organization responsible for the screening, has given permission for Tectors to take over the projection booth. Bring popcorn and bring your bunny slippers!

Admission is $2.50 but will be waived for people who bring working lasers. If you are able to comply with this provision, please contact Astrid Golomb on Tuesday at (213) 743-6797, or Bruce Tiemann in Ricketts House.

WE'RE IN HERE DRINKING LITE BECAUSE IT'S LESS FILLING AND TASTES GREAT. AND besides, we can't ski.

DICK BUTKUS & BUBBA SMITH

Friends don't let friends drive drunk.
**Caltech Hockey Fall to CSUF**

by Marty Zimmerman

Tuesday night the Beavers put out a strong effort but were nevertheless defeated by Cal State Fullerton, the top team in the league. Though the team was very physical, the hitting was clean and there were only two penalties in the game — none by Caltech.

The game was never really close, but the score was nearly even for awhile. This was thanks mostly to the fine play of goalie Peter Dowd, who had a magnificent game. During the first period Fullerton had 21 shots on goal, and Peter stopped 20 of these.

Midway through the second period, however, Caltech's luck ran out as Fullerton scored four goals in under two minutes, two of these goals coming only 15 seconds apart. The final score was 11-0.

**Ice Wars—** George Yates, captain of the Caltech Hockey Club, is held back by a Cal State Fullerton opponent and his stick in Tuesday evening's match.

**WEEKLY SPORTS CALENDAR**

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time</th>
<th>Sport</th>
<th>Opponent</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri.</td>
<td>2-14</td>
<td>1:00 pm</td>
<td>Golf</td>
<td>La Verne</td>
<td>Whittier</td>
</tr>
<tr>
<td>Fri.</td>
<td>2-14</td>
<td>All Day</td>
<td>Wrestling</td>
<td>NCAA Div. 3 West Regional</td>
<td>Wisconsin University</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-15</td>
<td>All Day</td>
<td>Wrestling</td>
<td>NCAA Div. 3 West Regional</td>
<td>Wisconsin University</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-15</td>
<td>10:00 am</td>
<td>Swimming (MW)</td>
<td>Pasadena City College</td>
<td>Caltech</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-15</td>
<td>12 noon</td>
<td>Baseball</td>
<td>Christ College</td>
<td>Caltech</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-15</td>
<td>1:00 pm</td>
<td>Women's Tennis</td>
<td>Cal Lutheran</td>
<td>Cal Lutheran</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-15</td>
<td>1:30 pm</td>
<td>Men's Tennis</td>
<td>Claremont-Mudd</td>
<td>Claremont (IV &amp; JV)</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-15</td>
<td>7:30 pm</td>
<td>Basketball</td>
<td>Whittier JV</td>
<td>Caltech</td>
</tr>
<tr>
<td>Tue.</td>
<td>2-18</td>
<td>3:00 pm</td>
<td>Baseball</td>
<td>The Master's College</td>
<td>Caltech</td>
</tr>
<tr>
<td>Tue.</td>
<td>2-18</td>
<td>3:00 pm</td>
<td>Men's Tennis</td>
<td>Pomona-Pitzer</td>
<td>Caltech</td>
</tr>
<tr>
<td>Tue.</td>
<td>2-18</td>
<td>9:30 pm</td>
<td>Ice Hockey Club</td>
<td>UCLA</td>
<td>Paulette Ice Center</td>
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<tr>
<td>Wed.</td>
<td>2-19</td>
<td>3:00 pm</td>
<td>Women's Tennis</td>
<td>Whittier</td>
<td>Caltech</td>
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<tr>
<td>Wed.</td>
<td>2-19</td>
<td>7:30 pm</td>
<td>Basketball</td>
<td>La Verne IV</td>
<td>Caltech</td>
</tr>
<tr>
<td>Thu.</td>
<td>2-20</td>
<td>1:00 pm</td>
<td>Golf</td>
<td>Whittier</td>
<td>Redlands</td>
</tr>
<tr>
<td>Thu.</td>
<td>2-20</td>
<td>All Day</td>
<td>Swimming (MW)</td>
<td>South Gate</td>
<td>South Gate</td>
</tr>
<tr>
<td>Fri.</td>
<td>2-21</td>
<td>All Day</td>
<td>Swimming (MW)</td>
<td>SCIAC Championships</td>
<td>SCIAC Championships</td>
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<tr>
<td>Sat.</td>
<td>2-22</td>
<td>All Day</td>
<td>Swimming (MW)</td>
<td>SCIAC Championships</td>
<td>SCIAC Championships</td>
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<tr>
<td>Sat.</td>
<td>2-22</td>
<td>11:00 am</td>
<td>Track</td>
<td>Pacific Coast Baptist Bible</td>
<td>Occidental</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-22</td>
<td>12 noon</td>
<td>Baseball</td>
<td>La Verne</td>
<td>Caltech</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-22</td>
<td>1:00 pm</td>
<td>Women’s Tennis</td>
<td>Redlands V &amp; IV</td>
<td>Redlands</td>
</tr>
<tr>
<td>Sat.</td>
<td>2-22</td>
<td>1:30 pm</td>
<td>Men’s Tennis</td>
<td>Pacific Coast Baptist Bible</td>
<td>Caltech</td>
</tr>
<tr>
<td>Sun.</td>
<td>2-23</td>
<td>12 noon</td>
<td>Fencing</td>
<td>Cal Poly &amp; Occidental</td>
<td>Cal State Long Beach</td>
</tr>
<tr>
<td>Sun.</td>
<td>2-23</td>
<td>1:00 pm</td>
<td>Women’s Soccer</td>
<td>Spinoffs</td>
<td>Caltech</td>
</tr>
</tbody>
</table>

**Hurler—** Freshman Brian Colder pitched a brilliant baseball game on Tuesday to lead Caltech to their first win of the season. The Beavers defeated Pacific Coast Baptist Bible College 11-6.

**Weekly Sports Calendar**

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**MONK’S PIZZA**

**TAKE-OUT & FREE DELIVERY**

26 N. Los Robles, Pasadena

*(Just N. of Colorado Blvd.)*

**Limited Delivery Area**

**Menu**

<table>
<thead>
<tr>
<th>Item</th>
<th>12&quot; Inch</th>
<th>16&quot; Inch</th>
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</thead>
<tbody>
<tr>
<td>Cheese</td>
<td>4.99</td>
<td>7.12</td>
</tr>
<tr>
<td>1 Item</td>
<td>5.89</td>
<td>8.45</td>
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<tr>
<td>2 Items</td>
<td>6.79</td>
<td>9.78</td>
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<tr>
<td>3 Items</td>
<td>7.69</td>
<td>11.08</td>
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<tr>
<td>4 Items</td>
<td>8.59</td>
<td>12.38</td>
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<tr>
<td>5 Items</td>
<td>9.49</td>
<td>13.68</td>
</tr>
<tr>
<td>Monk’s Special</td>
<td>8.59</td>
<td>12.38</td>
</tr>
</tbody>
</table>

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**Limited Delivery Area**

**HOURS**

Sun.-Thurs. 11:00-1:00 AM
Fri.-Sat. 11:00-2:00 AM

**CALL 304-9234**

---

**$200 OFF ANY MONK’S SPECIAL**

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**$100 OFF ANY MONK’S PIZZA**

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**$200 OFF ANY LG. 16" PIZZA**

2 ITEMS OR MORE

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UFO Lands—Film at 11

Are UFOs products of advanced alien civilizations or of sloppy journalism? When covering up more facts than fallacies, the Pentagons or the New York Times? Are they the result of military bases and the best fishing spots? Find out tomorrow in a fascinating presentation in Baxter Lecture Hall on "Alien Intrigue: The Evidence." The lecture will take place in Baxter Lecture Hall on February 15 at 7:30 pm. Free and open to the public. The lecture is sponsored by the Southern California Skeptics and the Caltech Y.

Philip Klass is the author of UFOs. The Public Decieved (The Los Angeles Times called it "A fascinating and detailed analysis") and UFOs Exposed as well as hundreds of articles concerning UFOs.

Methods in Math

The second talk of the "Methods in Mathematics" is "Polya's Method of Counting Hypergraphs" by Dr. Paul Hanlon. This method is a powerful method for counting certain kinds of graphs. The talk will be given at 7:30 pm on Tuesday, Feb. 15 in 151 Sloan. Refreshments will be served after the talk.

See Kismet

Tickets for Kismet are on sale now at the Caltech ticket office. They are $5.00 for students, $7.50 for staff and faculty. Performances are Fri. Feb. 21 and 28, Sat. Feb. 22 and March 1, and Sat. Feb. 23 at 8 pm, and Sat. and Sun. March 1 and 2 at 2 pm. Seating is reserved and they're going fast, so buy your tickets now.

Career Day

The Annual Caltech Career Day will be Thursday, February 20, in the Winnett Student Center. Open House booths will be from 11 am through 3:30 pm. During this time over 30 organizations will have representatives by Dr. Paul Hanlon. This method is a powerful method for counting certain kinds of graphs. The talk will be given at 7:30 pm on Tuesday, Feb. 15 in 151 Sloan. Refreshments will be served after the talk.

Summer Here or There

GTE laboratories will conduct the Industrial Undergraduate Research Program of summer internships for upper division undergraduate students in science, mathematics and engineering. Deadline: March 10, 1986. For information on this and other summer programs, here or abroad, drop by the Career Development Center, 08 Parsons-Gates.

BOC Rep-at-Large

The board of Control will soon select two representatives-at-large. Anyone interested should sign up in any of the student houses. The board will also take up the issue of Old American coinage no longer in circulation from cents to silver dollars. Often there are items of interest for the collector of foreign coins. Bargains are available to those prepared to engage in energetic bidding to enhance their collections. All Caltech personnel and their families are welcome to attend meetings held the third Wednesday of each month at 7:30 pm in room 168 of the Church Laboratory Building.

Scholarships for Blind

The National Federation of the Blind is offering scholarships for blind students who excel in their field of study and who have financial need. For further information please contact the Financial Aid Office, Room 10 Parsons-Gates. Application deadline: March 31, 1986.

Optical Money

SPIE—the International Society for Optical Engineering, is offering scholarships for students who excel in their field of study and who have financial need. Selections will be based upon the initial contribution to optical or opto-electronic applied science and engineering.

For further information and applications, please contact the Financial Aid Office, room 10, Parsons-Gates. Application deadline: May 5, 1986.

Uranus Encounter

No, this announcement isn't late. Mr. Urban is leader of the Advanced Software Development Group for the Voyager Project at JPL. He will talk about the Voyager Project with emphasis on the results of the Uranus Encounter.

The lecture is one of many activities sponsored by the Organization for the Advancement of Space Industrialization and Settlement (OASIS). The organization is a non-profit educational group which promotes space development.

The public is invited; there is no charge. For more information about this lecture or other OASIS activities call F. Wiles or the Career Development Center at (818) 700-5382.

CLASSIFIED

HELP WANTED—

STUDENT NEEDED to write program for keeping records of genetically engineered mouse families. Graphics needed. Carrol x6407.

EXCELLENT INCOME for part time home assembly work. For info. call (504) 641-8003 ext. 678.

AGENTS LOOKING for people to work in the self storage business. For info. call (602) 837-3401 ext 540.

GENERAL—

INSURANCE WARS! Will beat any price, or don't order your business! Sports cars, multideck, good alder market. Request "Caltech Plans." Call (818) 880-4407.

VALENTINE'S DAY WITH BRUCE! Rare 25 minute film and audio-$2.00 drinks, $5.00 cover, 21+ with ID. 9 PM-2 AM FOOTSTOES 314 N. Merado, Pasadena 449-4053.

TYING—paper beautifully done. If worst word processor for only $2.00 per page. Call the Bug Byte at 449-9012.

BUY YOUR TEXTBOOKS TODAY!

Winter quarter texts will be returned to the publisher beginning Feb. 17. The Last Day to STOP will be Feb. 25.

RATES: $2.50 for first 30 words; 10¢ for each additional word. Payment must accompany ad.

Squash Racquets Club

All those interested in playing squash at a recreational and/or competitive level, please contact Dr. Robert Misau (304-0793, Marks House). Currently, due to the unavailability of courts at Caltech we would have to use the exterior facilities of the Pasadena YMCA. If enough people are interested, there is a very good chance of getting the club subsidized by Caltech.

Der Junge Törlüss

All are invited to a showing of Der Junge Törlüss in Baxter Lecture Hall on February 17 at 7:30 pm. Based on a novel by Robert Musil, young Torlüss is brought up in a belching school and meets in his fellow schoolmates sadistically to tureen a classmate of his. The film is played mainly by unknown actors and was a multi-prize winner.

Coin Auction

A coin auction will highlight the February 19 meeting of the Caltech-JPL Numismatic Society. Included in the sale are examples of old American coinage no longer in circulation from cents to silver dollars. Often there are items of interest for the collector of foreign coins. Bargains are available to those prepared to engage in energetic bidding to enhance their collections. All Caltech personnel and their families are welcome to attend meetings held the third Wednesday of each month at 7:30 pm in room 168 of the Church Laboratory Building.

Sponsoring

Sponsored.

PHONE (213) ~ 117198.

THE CALIFORNIA TECH

Friday, February 14, 1986

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