# "If caltech didn't exist... THE CALIFORNIA TECH

... Someone would have to invent it"

**VOLUME XC NUMBER 1** 

PASADENA, CALIFORNIA

FRIDAY 23 SEPT 1988

Autumn brings thoughts of falling leaves, the World Series, football, and Halloween. Then there is also school, and so your journey at Caltech begins, freshmen and transfer students. Welcome to Caltech, the science and engineering school.

Undoubtedly, facing a new lifestyle, a new environment can be a bit daunting. Not to mention the imminence of The Big One. Put your fears to rest; the Caltech community is a close-knit one, and offers much guidance and support.

You come to Caltech at a particularly exciting time, since it is undergoing a number of changes. Dr. Thomas Everhart was inaugurated as President just last April. While your academic life will be guided by the new dean, Chris Brennen, your social life will be very much influenced by a new MOSH, and the AMOSH, Marda Collett. Meanwhile, the Caltech Y will be headed by newly arrived Paul Gibson. Lastly, five of the seven houses will be under the guidance of new RA's.

How to approach all this newness in your life? The best way to start is New Student Orientation at beautiful Camp Fox on Catalina Island, which is really just a three day beach party. Hopefully you won't be partied out, because you come back for a week of nightly parties, under the guise of Rotation. Use these opportunities to meet students and to learn about Caltech—its myths and realities.

Caltech is more than science and engineering; it will be your life for the next few years, and it will shape you for the rest of your life. Utilizing all its resources, both academic and social, you will experience Caltech to its fullest.

# Welcome Langdale heads to Tech UG admissions by Josh Kurutz Void no more! Daniel Langdale has come from the East to fill the long-ampty position of Daniel to Caltech community that

long-empty position of Director of Admissions. It is hoped that Langdale will revitalize an admissions process that found itself lacking a leader when Stirling Huntley left about one year ago.

The new director recently arrived from MIT, where he spent 11 of the last 22 years as the Associate Director of Admissions. His experiences at that position led him to develop many views and strategies regarding the philosophy and business of college recruiting. At the core of this approach was a reporter's attitude.

The prospective students should be, "reported to about the student body, the faculty, the climate, Los Angeles, etc. In some healthy, natural way, the right kids will apply," Langdale said. "Caltech neither needs to nor ought to massage or buff up the truth." He felt that if he tried this, potential students would detect facts being twisted and be turned away.

"Recruitment" is a word he generally tried to avoid. "My view of admissions leads me to the wellformed conclusion that 'recruitment' is not in the lexicon of Major League places like Caltech."

### Women and Underrepresented **Minorities**

There were some instances in which that word was more appropriate. Women and underrepresented minorities are classes of people Langdale believed Caltech should actively recruit. His overall strategy involves developing an idea of the best possible set of undergraduates, then intensively seeking out the students lacking in number and reporting about the Institute for them.

Langdale plans to meet with faculty to arrive at their notion of

# **ASCIT** honors top instructors

[CNB] Six members of the Caltech faculty have received awards for teaching excellence from the Associated Students of the California Institute of Technology (ASCIT). Selections were made by the educational policies committee of ASCIT on the basis of student evaluation of courses taught during the academic year. The awards may be presented for a single course or for a series of courses. The professors are evaluated on clarity, enthusiasm command of the subject, rapport with the class, and interest in the students as individuals.

Commenting on the awards, Caltech provost and vice president Barclay Kamb said, "When it comes to evaluating their teachers, Caltech students are undoubtedly among the most critical and outspoken in the country. The ASCIT award for outstanding teaching is a great tribute to the teaching skills of these faculty members.

The six faculty members honored by ASCIT are:

 Bruce Cain, professor of political science, for the courses "Interest Groups in American Politics": "American Electoral Behavior and Party Strategy"; and "Democratic Theory"

-Paul Patterson, professor of biology, for the course "Neurochemistry'

-Charles Peck, professor of physics, for the course "Topics in Classical Physics"

-Thayer Scudder, professor of anthropology, for the courses "Introduction to the Anthropology of Development"; "The Anthropology of Rapid Social Change"; and "The Evolution and Current Status of Small-Scale Human Societies"

-Charles Seitz, professor of computer science, for the course VLSI Design Laboratory"

-Kerry Vahala, assistant professor of applied physics, for the course "Quantum Physics of Matter"

Photos on Page 2

represented the population at large. He also plans to get to know the students and construct a rough diagram of the current student body. His goal is to plan how to bridge the gap between the present and the future ideal.

Two of the most glaring differences between Caltech's current undergraduate makeup and its generally desired situation are the numbers of women and minorities enrolled. Langdale examined these problems separately.

"One of the ways we're manacled is the number of women in the fields Caltech prepares people for is small," he said. One method he will use to try to solve this problem is going to young women and endorsing the proposition of moving into science and engineering. Once this idea is planted, he will encourage them to seek Caltech as a bridge between high school and professional life.

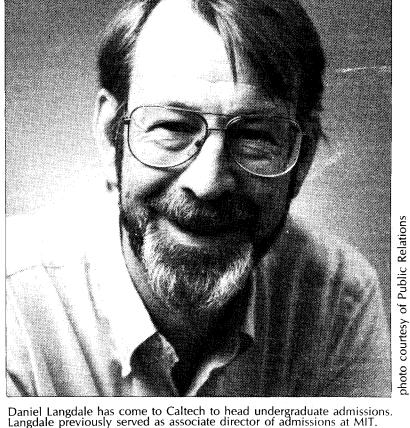
According to Langdale, underrepresented minorities are found in a different situation. "Women generally come from the same homes as the men but don't necessarily want to cross the bridge (to these careers). Minorities might not know the bridge is there." The emphasis here will be to seek out minority students who are looking for a place like Caltech and then inform them about it.

In both cases, the same methods would be used. Personal communication, phone calls, and travel are techniques that Langdale would like to see used more. He is also open to suggestions: "I have every intention of pursuing different approaches," he said.

Langdale saw the need for more women and minorities not as one of exposing students to a wide range of views and ideas. "In a sophisticated community of thinkers like this, it isn't just measuring up to someone else's standards. I believe that such pluralism engenders creativity; it introduces different views of the way the world works that you get from different cultures and regions."

### MIT experience

Langdale himself is from a different region and it is hoped that this will help bring success to the Admissions Office. His experiences at MIT make him partic-



ularly well suited for his position at Caltech. So far, the principal difference he has seen between the schools is "sunshine and slush," the opposition in the climates.

"A slug of MIT students are like Caltech students," he said. Noting that the eastern school was about 5 times the size of the western, he said that it was possible that Caltech might be representative of the top 1/5 of their counterparts at MIT. He also said he did not know whether or not Techers were a microcosm of the whole spectrum of MIT students.

This sort of uncertainty about the Caltech student body has motivated Langdale to meet more Techers and get a better idea of who they are and what they are like. He will be attending Frosh Camp and will be spending his first few weeks here getting to know the students in other ways.

Langdale said that he could send the best message to prospective students if he were closer to the current undergraduates. "You're an integrated part of the community, not just a mouthpiece." He believes this will help him in his position, which he thought was, "to do the best possible job of interpreting a prestigious university like Caltech to a bunch of high school students.'

Getting involved with the students here was one of the reasons Langdale decided to work here. "It gave me the opportunity to engage the kind of students that Caltech has." He thinks of Techers as, "potentially powerful people who know a lot.'

The new Director admires Caltech and its students very much. "I stand by and applaud a lot," he said. The existence of Caltech as an "Olympic-level university" is important to Langdale. "If Caltech didn't exist, someone would have to invent it."

The students provided a significant reason for Langden to come to Caltech, but the principal reason he took the job was the position of Director. "It was the opportunity to take on more responsibility for an operation," he said.

Another motivation for moving to Caltech was Los Angeles. "I'm not crazy about shoveling snow," he said. Both the climate and the culture of LA were important to him in his choice. "LA is an exciting city," he said. He cited a popular news magazine's quote that "LA is the city of the 21st century."

### His philosophy

Langdale seems to be a man who thinks a lot about the future. This might not be surprising given the nature of his work. This mode of thinking may explain why much of what he does a good deal of philosophizing.

One of his tenets is that he should not be the one to decide continued on page 2

# Students in leadership

by Andrew Hsu

"Caltech students lack leadership abilities...Caltech graduates make good workers but poor managers...Caltech students aren't very sociable..."

How many times have you heard statements such as those? Whether or not these generalizations about Caltech are valid, the United States certainly requires better and more effective leaders in order to compete in the increasingly competitive foreign market.

Although the Caltech curriculum does not offer any formal classes on leadership and vocal communication skills (although

E10 comes close as a presentation just a week before the first day of skills class), the Ametek corporation, the Caltech Industrial Relations Center, the Caltech Y, the Deans, and various professors such as Fred Shair and Gary Lorden realize the importance of leadership training and have tried to create activities and programs to fill this void in the curriculum.

One such activity that has arisen out of much discussion among the people mentioned above is the Ametek Leadership Institute. Now in its second year, the leadership institute consists of three full days of lectures, discussions and demonstrations. These seminars are held

classes and last from the morning to the evening including breakfast, lunch, and dinner.

It is quite an intensive program and is similar to the management seminars that are used extensively by executives in industry. All of the instructors are certified professionals in the field of executive and personal management.

The eighteen students that attended, spent three days learning about the finer points of communicating ideas to groups of people and managing groups of towards more productivity.

continued on page 3

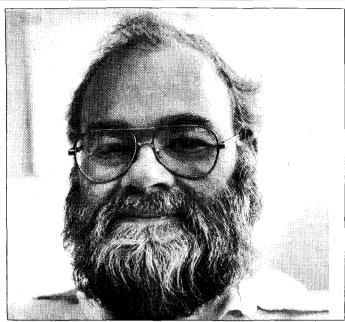
# The California Tech

Editors—Eric Fung • Stephen Lew • Chandra Tucker

ENTERTAINMENT Andrew Hsu

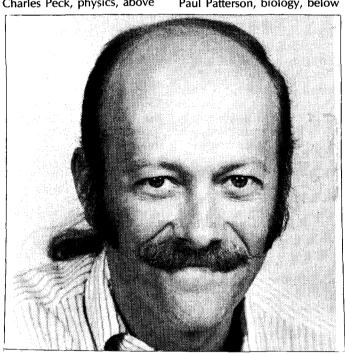
**SPORTS** Scott Kister

**P**нотоѕ Help Wanted **ANNOUNCEMENTS** Eric Fung



Charles Peck, physics, above

Paul Patterson, biology, below



### **SERVING CALTECH SINCE 1945**

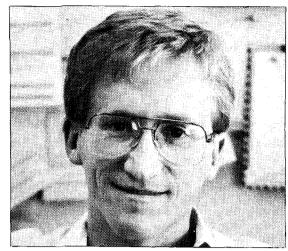
Authorized Agents for Airlines, Hotels and Steamships



690 E. GREEN ST. PASADENA, 91101 (between El Molino & Oak Knoll)



# Excellence in teaching photos courtesy of Public Relations



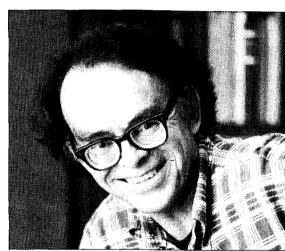
Kerry Vahala, applied physics



Bruce Cain, political science



Charles Seitz, computer science



Thayer Scudder, anthropology

### Admissions director, cont'd

what admissions goals will be. "An old-fashioned university, one that searches for truth and knowledge for its own sake, should be run by the faculty.'

There are four universities to consider in the admissions process, according to Langdale. They are what the students want, what they expect, what they get, and what they should get. The best situation is achieved when all four are iden-

When talking to prospective students, he will try to make students wonder about what they want. He wants them to consider challenging themselves at Caltech and reaping the rewards that the challenge will hold. Ideally, he would like to see them want what they will get.

### Passport Photos

While you wait service

Hours: 8:30 - 11:30 a.m. 1:00 - 4:30 p.m.

2 color prints \$7.70 \$9.90 4 color prints

**GRAPHIC ARTS ROOM 17 Business Services Building** 

### **ASCIT FRIDAY NIGHT MOVIE**

First Term Schedule

Sept. 30 Night Shift

Oct. 7 Roxanne

Oct. 14 City Heat

Oct. 21 The Producers

Oct. 28 The Creature from the Black Lagoon (3-D)

Nov. 4 Sleeping Beauty

Nov. 11 The Bridge Over the River Kwai

Nov. 18 Fright Night

Nov. 25 no movie

Dec. 2 Lethal Weapon

BAXTER LECTURE HALL TWO SHOWINGS EVERY FRIDAY

### THE CALIFORNIA TECH

Volume XC • Number 1 23 Sept 1988

REPORTERS Jim Brown • Josh Kurutz Help Wanted **PHOTOGRAPHERS** 

> PRODUCTION Nick Smith

Help Wanted

BUSINESS Jimmy Yang Gavin Claypool CIRCULATION Gavin Claypool

Eric Fung Andrew Hsu Scott Kister Stephen Lew Chandra Tucker Linda Wald More Help Wanted

THE CALIFORNIA TECH 40-58 SAC

California Institute of Technology Pasadena, California 9112

Phone: (818) 356-6154

Published weekly except during examination and vacation periods by Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors.

Letters and announcements are welcome. All contributions should include the author's name and phone number and the intended date of publication. The Editors reserve the right to abridge and edit letters for expediency, literacy, or other.

Turn in copy (preferably on an IBMcompatible, WordStar-formatted floppy disk) to the *Tech* office mailbox, room 40 in the SAC. The deadline for copy is Wednesday at 5 PM; for announcements, Tuesday at 5 PM. Late copy may not be printed even if prior arrangements have been made with the editors.

Subscription requests should be directed to the business manager. Rates are \$3.50 per term, \$9.00 per annum (three terms). Special rate for life subscription: \$125. Printed by News-Type Service, Glendale, California

ISSN 0008-1582

## entertainment

# by Jim Brown

Well, this was supposed to be my big debut writing for the entertainment section of this most prestigious newspaper. Unfortunately, the cruel and heartless editors ran out of space so I guess everyone will have to wait until next week for that spashy debut. Oh well, realizing that you are all going to be bored on the ride to frosh camp, I've decided to test your knowledge of the finer points of music history with this little music trivia test on the right.

Stayed tuned next week for the first of a weekly series of articles on the L.A. music scene. And if you are interested in writing for the entertainment section just ask the editor. The rewards and exposure from writing are virtually indescribable

1. Name the first American band to be managed by Brian Epstein of the Beatles (Hint: Their one hit was Red River Wall).

2. What New Wave/Punk band from L.A. performed on the Jerry Lewis 8. Which band did Mick Avery play in before he joined the Kinks?

3. Who played bass for the Sex Pistols on the Never Mind the Bollocks, Here's the Sex Pistols album?

4. What year did Bob Marley die?

Telethon?

5. What southwest town are the Meat Puppets from?

6. What does J.F.A. stand for?

7. Name the first band to use moniters during their concert.

9. What psychopathic murderer tryed out for the Monkees?

10. What band were Jeff Beck, Jimmy Page, and Eric Clapton originally members of (at different times)?

11. Out of the three guitarist previously mentioned, which one original-

12. What current top 40 band is originally from Iceland?

8. The Rolling Stones

6. Jody Fosters Army

5. Phoenix, Arizona

3. Glen Matlock

4, 1980

7. "X"

7. The Rolling Stones-1969

Answers

# Ametek, Y sponsor leadership conference, cont'd

from page 1

These seminars were definitely not three days of boring lectures as one might expect. Instead, the instructors used techniques such as role-playing games and videotaping to emphasize key ideas. The instructors continually challenged concepts of effective communication and leadership through discussions and simulations.

One important point that was made clear was that effective communication was essential not only in the business and academic world, but also in many recreation and leisure activities. The discussion with guest speaker Arlene Blum reinforced this idea. Ms. Blum was the leader of the first American ascent of Annapurana and she talked about the many communications skills needed for a successful high-altitude mountain climbing expedition.

The students that attended this year's seminar felt that they gained much out of this three day program. They all felt that they had learned a lot about the art of effective communications and about themselves. As active members of various campus-wide organizations, all students felt that their experiences at this leadership institute would benefit their respective organizations as well.

Asked what was the most interesting part of the seminars, the consensus agreed that the marshmallow fight that one instructor sponsored to release tensions among us participants was the certainly the most memorable, if not fun. The marshmallow fight, along with dinners, and role-playing games showed that learning leadership skills was certainly not a dull experience. All students felt that the program lived up to their ex-

# Rag Time

**RESALE CLOTHING** 

WOMEN Mon 10-6, T-Th 10-5, F-Sat 10-3 (818) 796-9924 1136 E. Green St., Pasadena

### "powerful and easy to use..."

Prepare publication quality plots with no more effort than it requires to log data into a research notebook! MicroMath's GRAPH is a PC-compatnotebook! MicroMath's GHAPH's a PC-compatible plotting program that allows data to be displayed graphically on screen, modified with the built-in editor, transformed using a variety of operators, annotated, archived, and reproduced at high resolution on a wide range of devices. \$79.00 (no S/H on credit card orders).

Ask for our free brochure, with detailed technical application notes, describing GRAPH and our other scientific software packages.

MicroMath SCIENTIFIC SOFTWARE 2034 E. Fort Union, Salt Lake City, UT 84121

Telephone: (801) 943-0290

pectations and saw little need to improve upon the existing program. A poignant comment many students mentioned was that certain members of the Caltech faculty could benefit from this type of

Although the Ametek Leadership Institute is only conducted once a year, it is not too early to consider next year's session. While the seminars have been previously limited to selected officers in campus organizations, it is now open to anyone interested. However, each potential applicant should be warned that this program is a very intensive three day course and requires a solid commitment to be present for the duration of the program. For more information contact the Caltech Y.

Besides, the Ametek Leadership Institute, other leadership/management training opportunities do exist on campus. One of the easiest ways to gain leadership experience is to join a club or even start one of your own. Hands on experience is always an excellent way to learn about management.

Ametek also sponsors noontime lunch seminars throughout the school year. Since these lunch seminars happen aperiodically, be on the lookout for future announcements.

Another well kept secret is the relative abundance of management courses offered at the Caltech Industrial Relations Center. A list of upcoming seminars is available at their offices on 383 S. Hill.



WANT TO JOIN?

If you do, come by for a non-competitive placement audition

Sunday, September 25, 1:00-3:30 Monday, September 26, 3:00-6:00, 8:00-10:00

> Instrumental Music Office Room 12, Student Activities Center

Questions? Call Bill or Delores Bing at (213)684-8964 EVERYONE IS WELCOME TO JOIN, REGARDLESS OF PREVIOUS EXPERIENCE

> 1st Rehearsal for the CALTECH WIND ENSEMBLE Thursday, Sept. 29, 7:30-9:15 p.m.

### **CALTECH JAZZ BAND**

Thursday, Sept. 29, 9:30-11 p.m. Beckman Auditorium Basement

If you can't make this rehearsal but want to play, just call Bill Bing at (213) 684-8964 or leave a message at 12-58

12. The Sugar Cubes 11. Jimmy Page Photo Editor 10. The Yardbirds 9. Charles Manson

If you have a camera, can take pictures, and develop your own film, we have a job for you. The Tech is looking for a responsible person to fill the position of Photo Editor. If you are interested, contact the Tech in SAC, room 40.





Caltech's Campus Computing Organization |

will be hosting its Third Annual



### on

Friday, September 30 160 Jorgensen Building

Faculty, Staff, and Students Welcome

Stop by from

9:30 A.M. to 11:30 A.M. for Coffee and Donuts

1:30 P.M. to 4:30 P.M. for Refreshments

See the latest from Apple, Everex, IBM, Sun, Toshiba, and Zenith







# Rotation

by Stephen Lew

Welcome Freshmen! To assist you in planning your rotation week we have included a copy of the dinner rotation schedule. Although this list is deemed reliable, there are no guarentees so check with the list posted on the door in front of the Master of Student Houses if in doubt.

You have probably heard the "truth" about rotation from the upperclassmen and, by now, are interested in hearing some real facts. For rotation week, each new student visits different Houses for lunch and dinner according to the following scheme...

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Dinner	Α	В	C	D	$\mathbf{E}$	$\mathbf{F}$	
Lunch		F	$\mathbf{E}$	Ċ	В	D	G

So if your rotation order was

Su Mo Tu We Th Fr Sa Techer, Joe  $\mathfrak{P}_a$  No  $\mathfrak{T}_a$  Ri  $\mathfrak{R}_a$ 

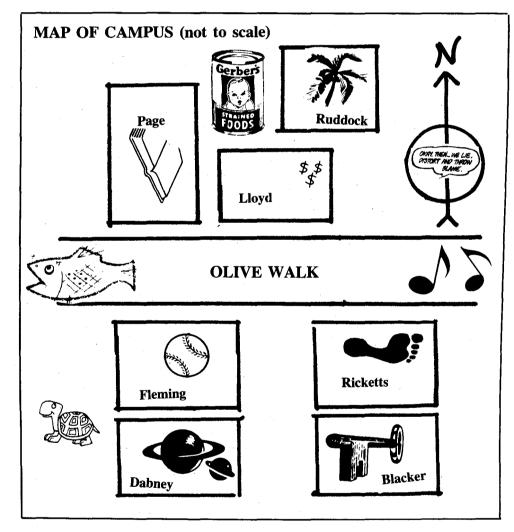
It means that you were rotating out of Ruddock House and on Tuesday you would eat lunch at Page House and dinner at Fleming House.

Be sure to attend all of the scheduled meals and pick up your name tags. If you miss one and don't contact the house president, you will not be allowed to submit a list of house preferences at the end of the week.

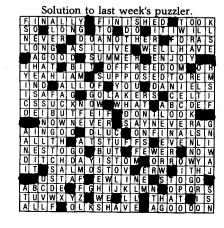
Remember, rotation is a time to get to know people and the houses. In the interest of fairness no House or new student may take unfair advantage of any other House or new student. This includes, but is not limited to, houses enticing students with gifts or promises of upcoming social events.

Also, brace yourselves for the onslaught of "Whatsyournamewhereyoufrom?", the ubiquitous "In the past...", and other annoying rotation questions

We all get bored after Wednesday, so don't worry be happy?











FEIERABEND, CARL

FIELDS, MATTHEW

FILIPANTIS, FRANK

FLEES, DANIEL

Fox, Robert

Fuller, Brian

Fung, Andrew

Fu, Tracy

FOOTE, GARRITT

FETTERMAN, MATTHEW

ΓL

Ri

Ru

 $\mathbb{L}\mathbb{I}$ 

Li

**O**a

ΓL

 $\mathcal{P}_a$ 

**Oa** 

BI

Ru

Bl

BI

ΓL

BI

Ll

 $\mathcal{P}_a$ 

LI

 $\mathcal{P}_a$ 

Ri

Ri

 $\mathcal{P}_{a}$ 

Ll

BI

Ři

 $\mathcal{P}_a$ 

LI

Ri

Ru

Ru

Òa

Òa

 $\mathcal{P}_a$ 

ΓL

ΓL

Ru

Ru

Ri

ðα

BI

ΓL

ða

**Oa** 

Ru

BI

BI

BI

ΓL

 $\mathcal{D}_a$   $\mathcal{L}_a$ 

 $\mathcal{P}_a$  Ru

Ll

BI

ΓL

Ll

ΓL

Ri  $\mathcal{L}_a$ 

Ru Ri

Ri

da Ri

IL da

LI

 $\mathcal{P}_a$ 

### Quip of the Week

Have you ever noticed that *enunciate* is the most clearly pronounced word in the English language?

# Schedule

		<b>4. 1</b>		1			
Abo, Andrew Abshire, Pamela Adler, Bozidar Ahmad, Syed Zubair Allendorf, Todd Ammons, Glenn Ang, Arthur C. Archie, Kevin Arcilla, Jesus Anderson, Steven Aumann, Walker Azeem, Mohammad	Su Ri da Cla Mill da Fl Ri Fl	Mo L! RU FL Oa Ri Oa Ri PL Pa	Tu Ru fl Li fl Li fl Li Eu Ru Ru	WE FL FBI Ri Pa RU Ri Oa Ri Oa LI LI	TH La Ri Ri Ri Ri Ri Ri Ri Ri Ri	FR Oa Pau War Pau Oa Ri Pau Oa Ri	SA 題LI O 題LI LI L
Bach, Joseph Bang, Richard Barrett, Jeannie Bernstein, Noam Bhatia, Sabeer Bjerke, Scott Bomberger, John Bond, Robin Boswell, Lanny Boyce, Jack Brandt, William Brettle, Dean Brar, Deepinder Brown, Glenn Buck, Stephanie Buescher, Brent Burrows, Lee	Ri FL Ri Ri Ri LI Pa FL Soa Soa	Ri Li Oa Oa Ri Li Ri Pa Li Oa Ri Li Oa Ri	BLI FLU GA FL OA RI GL	FL BI COA FL CA RI CA RI	Pa Ru Oa Ru Bu II Pa Oa II Oa II Ri Ru	LI U RI U RI	Oa Oa Pl Ll Pa Ri Ri Pa Fl Ll Pa Ri Ri Pa A Ri Pa A
Callow, George Carlson, Matt Carson, Steven Carter, Jerry Cesarotti, William Chan, Antony Chang, Barbara Chang, Robert Chang, Yu-Wen Chati, Michael Chen, Lee Chafin, Brian Chheda, Ajay Chiu, Tien-Yee Chow, Gladys Clark, Samuel Class, Matthew Clendenin, Brian Collett, Matthew Corcoran, Douglas Crews, Andrew Curtis, Jason Cusanza, Christopher Cutrer, David	BIOARILE LICATER AND THE LICATE AND THE LICATER AND THE LICATER AND THE LICENSE AND THE LICENS	Pa Ri Pa Li Oda Li Pa Li Pa Li Li Ri Li Li Pa Ri FL Mi Li Ri Li Li Pa Ri FL Mi Li Pa Ri FL	LIPA I MRILLA ARILLA LI REPORTATIONE	R I L I I I I I I I I I I I I I I I I I	OANU LUI LUI LUI AAUULUI AI LII RAAUULUI RAAUUULUULUI RAAUULUI RAAUULUI RAAUULUI RAAUULUI RAAUULUI RAAUULUI RAA	LI DA LIPA FL LI WRIE RIE DA RIE PAR DA LI WAR PAR DA LI W	Rigida IL a Brill Lila da de Il Li a Rigida II.
Daugjerg, Cristian Davis, Mikel Densmore, Alexander Discoe, Ben Dixon, Joel Dong, Wendy Duchovnay, Brian Duncan, Joseph Dunn, Christopher	Pa Ri Pa Ri Ri Ri Ri Ri	Ru Ru Li Li Ri Li Oa Bi	Oa Bl Pl Pa Ru Bl Pl	Ri FL Oa Oa Pa Oa Ru	fl Li fl Li Mi Ru Oa	BI Sa Sa BI IL Sa IL LI Pa	LI La Ri Ru FL LI FL
Engin, Doruk Edwards, Stephen El-Azem, Patrick	Ll Ll Òa	fl fl <b>R</b> i	Ru Ri M	Oa Bl Pa	Bl La FL	Ri Oa Ll	La Ru Ru
<u> </u>							

# Schedule

#### Su Mo Tu We Th Fr Sa $\mathcal{P}_a$ Bl FL ðα Ll Ri GANDHI, AMAR $\mathcal{P}_a$ Bl ΓL ðа Ri Ll GIGER, MATTHEW Ru Ri IT Ru Bl $\mathcal{P}_a$ ða GILMORE, DELWYN $\mathbb{L}\mathbb{I}$ ΓL ða Ri BI $\mathcal{P}_{a}$ Ru GODDARD, CHRISTOPHER LI ŤL $\mathcal{P}_{a}$ Ri da Ru GOLLUB, JEREMY BI Ll $\mathcal{P}_a$ Ru ða ۲L Bl Ri GOODEY, MICHAEL LI ΓL $\mathcal{P}_a$ ðα GREENBLATT, MICHAEL Ru Ri Bl $\mathbb{L}1$ $\mathcal{D}_a$ GUSOVSKY, MICHAEL **O**a Ru Ll Ri BI ΓL Ru $\mathcal{P}_a$ IL HAFER, CATHERINE Ri Òa BI $\mathbb{L}\mathbb{I}$ HAKEEM, ATIYA BI Ri ΓL $\mathcal{P}_a$ Ru Òa Ll HALE, GREGORY Řu Ri $\mathcal{P}_a$ Òa Bl ΓL Ll ða Ru Pa HALLER, PETER ſΙ BI LI Ri $\mathcal{D}_a$ HALLIDAY, ROBERT BI ΓL Ll Ru ða Ri HANNA, ROBERT ða Ru $\mathbb{L}\mathbb{I}$ Bl Ri ΓL $\mathcal{P}_a$ HAWKINS, AARON $\mathcal{P}_a$ LlRu Ri ΓL BI Ŏа Pa da Bl Ru ΓL Ri Ho, Albert LI BI $\mathcal{P}_a$ Ho, Christopher ðα Ru Ri ΤŢ Ru Hong, Nancy Òa BI Ri TL La Ři $\mathcal{P}_a$ Hsu, Hanna 邓 Ŏа ΓL Ru li Ru Pa Hu, James ĪΙ ðа Ri Ll Hua, Nancy ðα ΓL $\mathcal{L}_a$ Ri Ru $\mathbb{L}1$ Huang, Douglas Ri ۲L **B**I $\mathcal{L}_a$ Ll **da** Ru ΓL $\mathcal{P}_a$ Ri Hudson, Hoyt Ru BI ðа LI HWANG, STEVE ða W! Pа Ri ΓL Ru $\mathbb{L}\mathbb{I}$ ða Bl ΓL Ri $\mathcal{P}_a$ Ru JAECKEL, ANNA Ll Oa BI ΓL Ŕu Ri $\mathcal{P}_a$ $\mathbb{L}1$ JOHNSON, JENNIFER ΓL Ru $\mathcal{P}_a$ Bl Ri ða L1Johnson, Karin ΓL Ri $\mathcal{P}_a$ Ll Ru JONES, JEFFREY ð۵ Bl $\mathcal{P}_a$ Kabell, Ian ΓL Ru Bl Ri đa Ll $\mathcal{P}_a$ ðα BI Ri Ru fl KAPLAN, ARI Ru $\mathcal{P}_a$ BI Kawamura, Johnathan Ri ΓL da li ðα ΓL Ru Pa Keir, David Ri Æl LI $\mathcal{P}_a$ BI ΓL Kim, Bryan ða LI Ru Ri $\mathcal{D}_a$ Kim, Jung-Ah Bl Ri **O**a $\mathbb{L}\mathbb{I}$ Ru ΓL Ko, Daniel L ðα $\mathcal{L}_a$ ΓL $\mathbf{R}_{\mathbf{i}}$ **B**I Ru Ru ΓL La da LAKATA, MARK Ri $\mathbb{L}\mathbb{I}$ BI $\mathcal{P}_a$ ðα LI Ru Ri ΓL LAND, MARK $\mathcal{P}_a$ Ri ΓL Ŕu ðа BI Langer, Keith Ll Bl Pa Ru ðα Ri ΓL Lì LAVIN, ANDREW $\mathcal{P}_a$ LEE, ALBERT $\mathbb{L}\mathbb{I}$ ΓL BI. **Oa** Ru Ri Ru $\mathcal{P}_a$ ΓL LEE, ANGELA BI ðα Ll Ri $\mathcal{P}_a$ Bl LEE, GARLAND Ru ΓL ðα Ri Ll Ři LEE, ROBERT ΓL BL $\mathcal{L}_a$ L1**da** Ru Ri $\mathcal{P}_a$ LEROY, LIEVEN Ru LlΓL 0a Bl Li, Po King ΓL Ri ðα Ru BI. $\mathbb{L}1$ ΓL Pa Li, Zhaohong Ll BI ða Ri Ru $\mathcal{P}_a$ Ru Bl Ri ΓL LI ða LILJEBLAD, JONATHAN LIM, SHELDON ða Ri $\mathcal{P}_a$ LlBl Ru ΓL $\mathcal{P}_a$ ΓL LIMAN, THOMAS Ru Ri B! LI ða Ri $\mathcal{P}_a$ ΓL Ru Bl LIN, ALEXANDER ðа Ll $\mathcal{P}_a$ Ru LIPMAN, AARON Ri ΓL $\mathbb{L}\mathbb{I}$ **Oa** BI Liu, Gwoho Ri ΓL Ru ðа $\mathcal{P}_a$ LI BI ðα $\mathcal{P}_a$ Ru LIU, NYE ΓL BI Ll Ri LIU, ROBERT $\mathcal{P}_a$ LIΓL Ri Оa BI Ru Lo, Fiona BI. ΓL ða Ll Ri Ru ΓL Bl Ru $\mathcal{L}_a$ Ri LOVEJOY, IAN L Oa Ru $\mathcal{P}_a$ da fl Lumbard, Kim Ri LI Bl da fl Ru $\mathcal{P}_a$ Bl. LUMBARD, KIM Ll Ri Lung, Yvonne $\mathcal{P}_a$ Ru ðα Bl ΓL Ll Ri Macnamara, John $\mathcal{P}_a$ ða II Ru ΪL **B**I Ri MADDOX, TIMOTHY Ru ΓL BI. 🗘 Da 🕹 Da Ll Ři Mahon, Harry Ru **B**I $\mathcal{P}_a$ ða li ΓL Ri MARTIN, CHRISTOPHER Oa FL Ri LI $\mathcal{P}_a$ B1 Ru ΓL $\mathcal{Q}_a$ $\delta a$ MARTIN, JERRI Bl Ri Ru LI $\mathcal{P}_a$ ða Max, David Ri ΓL Ru BI Ll MAXWELL, MIKE ΓL $\mathcal{P}_a$ Ru **Oa** Ri $\mathbb{L}\mathbb{I}$ BI McCormick, McKeithen Ri Bl Ll Ru $\mathcal{O}_a$ $\mathcal{P}_a$ ŤĹ $\mathcal{P}_a$ ΓL McElroy, Jason Ri Ru **Oa** Bl Ll Ri $\mathcal{P}_a$ ΓL McGill, Jon BI Ru Ll ða ða $\mathcal{P}_a$ MEJIA, ANDREA Ru Ri LI ΓL MILLWARD, DAN ΓL Ru Ri $\mathcal{P}_a$ Bl Ll Òa Ri ΓL Ru $\mathcal{P}_a$ Modisette, Jason ða BI Ll $\mathcal{L}_a$ ða ΓL Moon, Jong Ri Bl Ru LI Morales, Alfredo ΓL da III $\mathcal{L}_a$ $R_i$ Ll Ru MUDBHARY, BHUSHAN ΓL ða Bl Ru Ri $\mathcal{L}_a$ Ll Mughal, Asim Ri Ru ŤĹ Bl $\mathcal{L}_a$ Oa 11 Muhly, Justin $\mathcal{L}_a$ Ru Ri ŤL LI BI da Murakami, Tamaki BI $\mathcal{L}_a$ Ri Ru LI ða fl

# Rotation

	C	<b>N</b> 1/~	Tr	TA7	Т	T	c.
Naranjo, Emmeline Nassir, Michael Nelson, Mark	Su Ri Ri Ru Ri	Mo fl fl fl	Tu La Da Ri	We Ru Ru Oa Ru	TH LI FL LI Oa	$\mathcal{P}_a$	Sa Oa Ll Ll Pa FL
NG, CELIA OBERNOLTE, JAY	Ki Ll	選I ða	Li Ru	<b>B</b> I	Da La	E L	Ri
Pak, Ki Pakianathan, Jonathan Papa, George Park, Kevin Partlow, Josh Peterson, Ian Philippkos, Tzanetos Placker, Trevor Pollett, Christopher Porter, Annis Pun, Betty	La Pa Ri Pa Oa Li Li Oa	RI RI Pa Ri FL Oa Pa RU RU Pa	『L <b>Oa</b> Ri <b>Oa</b> Ru Ri <b>B</b> I 常 『 足 足 に <b>B</b> I 常 に れ に た に た に に に に に に に に に に に に に	Ri Pa LI RU FL Ri LI Pa FL Pa	Oa Ru FL Oa Li FL Oa Ri FL	LI LI LI BI LI	RU Sa FL LI Pa Ri Pu Pu LI
Rahman, Faress Raymond, Christopher Reyzer, Eugeny Rockwell, Nathan Rogan, Peter Rogers, James Rogers, William Rosin, Christopher Ross, David Roth, Carl Rowe, Mary Rowland, Todd	Pa Pa FL LI Oa LI Oa RU Pa RU	Oa LI Oa BI BI Pa Ri Pa LI RU Oa	Ru Ri Li Oa Li Ri FL Ri Ri Ri Wi	III FL Ru Ri Ri Oa FL Oa FL Ri	La Ri Ri FL FL Ri Ri Oa	Ri Bu Bu Oa Bi IL Pa Li Bi IL	FL  Oa  FL  Ri  Pa  Bl  Oa  FL  Pa  LI
Salinas, Carlos Samoilov, Michael San Clemente, Paul Sauby, Shane Sayeed, Zulfiquar Schaeffer, Benjamin Schmidt, Douglas Schneider, Karl Schwartz, Rachel Schwartz, Tal Shcheglov, Kirill Simpson, Michael Sincovec, Richard Sitton, Grant Slye, Derek Smith, Lan Song, Richard Stevenson, Randall Stout, Eric Su, Hsiao-te Sumiyama, Allan Surace, Jason	Ri 運LLa da da CL Ri 運用しる MA LI da da LI Ri LI da da da da LI Ri LI da da da da LI Ri LI da	Ra FL Ri LP BI WILL RI FL WILL RI FL	LI LI PA LI LI PA LI LI DA PA LI LI DA PA RI PA RI	MI MI Pa Ri Aa Ri Oa Li Oa	LI Ri	FL FL W Ri LI Ri P. P. LI Ri Ca	Pa Ri Ri Li Pa Ri Ri Li La Ri Ri Li La Ri Ri Li La Ri Ri Ri Ri Li La Ri Ri Ri Ri Li La Ri Ri Ri Ri Li Li La Ri
Thienprasit, Paul Toronto, Maria Trout, Julianne Tsai, Shun Tseng, Michelle Tully, Christopher	da Li Ru fl Mi da	Ri Ri Ri Ll Bl	Pa 個 L Oa Ri IL	BI Sa LI RU RU RU	LI FL LI Pa FL LI	Ru La Oa Bi La La	FL Ru BI Li Oa Ru
Vazquez, Mateo Volden, Craig	Wi FL	LI Oa	La Ll	Ri Bl	FL Pa	ða Ri	Ru Ru
Walters, Deron Wallce, Bonnie Wang, Elizabeth Watabe, Takashi Weaver, Daniel Wen, Emily Werner, James Whang, Duke Whitesel, Todd Wolf, Robert Wu, Peyjen	Pa LI RU RU FL Ri LI LI LI	FL Ru Oa Pa Oa Ri Pa Pa Oa Pa Oa	Ri FL FL BU RU Ri Pa	LI Pa a a li Bi Li Bi Li Ri FL	Ru Oa Bi Ri Rl fl fl Oa Bi	Na Ri Ri Da Oa Oa Oa Ri Ri	BI BI LI Ri FL Pa Ri Ri FL Oa
Yang, Julius Ying, Linda	Ri Bl	ða Ru	Li	Pa FL	La	Bl Ri	fL ða
ZADIK, YAIR ZIOMKOWSKI, CHRIS	La M	ða Ll	Ri Ri	LI FI.	BI Sa	FL Pa	Ru Ru

ZIOMKOWSKI, CHRIS

BI LI Ri IL Oa Pa Ru

**BLOOM COUNTY** 

by Berke Breathed









# The Inside World

This week's Inside World was brought to you by:

Lloyd: Curt Hagenlocher and Paul Socolow Ricketts: Su-Lin Wu

Lloyd: You can do anything you want in Lloyd House... 'Cause the BOC rep's off-campus! In further Lloyd news...

-Jesus reviewed The Last Temptation and found it to be a mostly accurate description of his life. The only problem with the film, says J.C., is that "Mary Magdalene had bigger tits.

Sex kitten Alecia Chen has gone home for two weeks. The Fleming cannon has been drooping noticably.

-Dave Jeitner has unveiled his new line of denim for the fall season. Headbangers everywhere are looking for the image-raising designs by this hard rock fashion mogul.

-The "Andy Warhol" look is in, for the wanna-be artist crowd, according to Ian Dutton. Ian can be seen around campus sporting his characteristic snowwhite bangs.

-Dave Townsend, Lloyd House Treasurer, is spending the week in Hawaii, frantically trying to determine how Lloyd could be missing \$2000 since he took office

-Frank Kim has some social events planned for first term already including an "MIT homecoming party" and a "Get away from Caltech for a lifetime" evening.

-Karen Oegema was seen recently wearing a Dokken T-shirt.

-Steve Ludtke (user name stevel) was seen wearing all black shortly after reporting the death of "geekbox," the XENIX PC that was his only child.

-Mike Rozak appeared on the cover of Medieval Times magazine, following in the footsteps of his roommate, Sean Johnston who had previously appeared on the Caltech Catalog. Sean, fighting the Crusades, was unavailable

-Michael Ida was heard to say, "If they wear any of that Medieval garb in MY alley, I'll kick their Creative Anachronistic Asses."

In other news, the Inside World has already lost two investigative reporters to the mystery of Room 5. This enigmatic chamber, deep in the heart of the Keith Spaulding building, refuses to yield us its secrets. Any information regarding this matter should be placed in an unmarked, unsealed envelope, and slid under the door to Room 215 Lloyd House. Thank you.

-J.C. and the Kraut

Ricketts: If you are a new freshman:
Hi there! Welcome to Caltech! By now, you are all probably on your way
to Frosh Camp. Have fun, don't study too hard. And be sure to throw Jerry
Hauck in the ocean as many times as possible. Really, he enjoys it and will thank you. Don't be concerned if he yells and screams a lot. It's his way of showing that he's having fun.

Ricketts House is the big thing next to the big thing with the cannon in front of it. No, they only look like they're connected. I worked pretty hard on the BRIGHT, awful looking name tags we're going to have, so please come by and put on your name tag so I won't feel like a complete failure in life. And say hello while you're here.

If you are an old freshman:

Hi there! Welcome to Caltech! By now, you are probably wondering what the heck happened while you were away. Well, I was here, ALL SUMMER LONG, and 99% of the time NOTHING happened. Here's the other

We Scurves, stuck here for the summer, celebrated some birthdays and Diana's new citizenship (be sure to give her more all-american foods like hot dogs) adding one more short, female, ornamental to the population. Isn't that great, Samer?

James had fun in San Diego. Getting him back took the combined effort of four or five households. When he got back, he was sort of laughing and sniffling and gurgling at the same time.

We all went outside to watch Cali, Cherries and Gato have a spitting contest. OOoo, yeah.

I cooked refried beans and put just a little too much garlic in it. George says that if you catch the wind in the L.D. kitchen just right, you can still smell

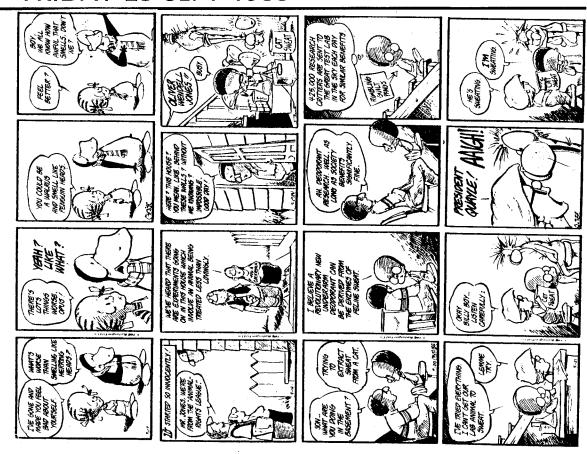
The fire alarms are REALLY annoying. And people are learning to sleep through them, trying to get some rest more than every other night. If a real fire came, Ricketts is going to sleep through it.

Some end of the summer excitement: Some off campus type wanted to come and play rough with us, but the mighty Scurves stampeded out and crushed him like a bug. It was a good thing that Bengt is made of concrete. Also pounded on: Peterpete, who head was almost removed; Plu, whose few enough brains seemed to be flowing out of his ear; Jon, who now has three black eyes; and Drew, who requires a new skin.

That's about it. Every person living in Ricketts has a new name card. Bribe the Complaints Department if you don't like yours and maybe you'll get a new one. If you don't have one and would like one, bribe the Manufacturing Department and maybe you'll get one. If you do not live in Ricketts House and would like a Ricketts House name tag for rotation, bribe the Sales Promotion Department and they'll get you one.

Ta! Until later.

-Pip-Squeek





Back-to-School Savings on

### FINANCIAL CALCULATORS



**BA-54** Financial

We bought a large quantity of TI's high-powered financial calculator at a special price to bring you a savings.

List \$75.00

### **Business** Edge

This new model has easy-to-use touchsensitive menus for finance and statistics. including regression

List \$60.00



### TI-30 Solar+

Runs on room light and never needs batteries. All standard trig and log functions plus stat.

List \$19.95

TI-30 Stat

Trig, logs, powers, roots, plus mean and standard deviation. Long-life battery.

List \$14.95

**SCIENTIFICS** 

TI-34

Advanced Solar Scientific

List \$26.95



The TI-34's advanced function set includes: trig, logs, roots, hyperbolics, hex-oct-binary-dec conversions, fraction calculations, polar/rectangular, degrees-minutes-seconds, and more!

### HANDHELD COMPUTER **TI-74 BASICalc**

Hold the power of a computer in your hands with the TI-74. And it's programmable in BASIC, the most popular language of small computers. Includes 8Kb RAM expandable to 16Kb. Optional printer, cassette interface, and plug-in catridges for math, stat, chemistry, finance, and Pascal.

List \$149.95



### **DESK CALCULATOR**

List \$99.95 TI-5150

or TI-8230



Another special purchase by our buyers. The large display, full-size heavy-duty keyboard and quality printhead make this unit suitable for home or office. Has memory, decimal selection, percent, printer on/off. Display tilts to any angle.



Prices good through Sept 30th

VISIT ONE OF OUR 24 SOUTHERN CALIFORNIA LOCATIONS Pasadena

170 S. Lake Ave. (818) 796-9000

San Gabriel Rancho Cucamonga (818) 287-1164

(714) 980-0283



////////

# what goes on

from page 8

### International Student \$\$

The seventh annual International Student Scholarship Competition—a nationwide essay competition for international students studying in the U.S.—is now underway. First prize is \$1,500 to be used for academic or professional advancement. International Underwriters/Brokers, Inc., also will award \$350 to the International Student office of the first-place winner.

Deadline for the competition is Decem-

Deadline for the competition is December 1, 1988. International students interested in entering must submit an essay of no more than 1,500 words on the topic: "Important cross cultural clues are often found in humor. Compare humor in your country with humor as you find it in America. Include examples of humorous situations resulting from cross-cultural misunderstandings, either in the U.S. or on your first visit back to your home country."

Additional scholarships will be awarded for second place (\$1,000), third place (\$500) and five honorable mentions (\$100 each). The International Student Scholarship Competition is open to all full-time foreign students enrolled in a prescribed degree- or certificate-granting program at an accredited high school, junior college, college or university with in the U.S. Also eligible are students enrolled in an English training program who plan to pursue higher education in the U.S.

For additional information, rules and entry forms, write: Essay Competition Coordinator, DSD Communications, Ltd.; 10805 Parkridge Boulevard, Suite 240, Reston, VA 22091.

#### **Opera Auditions**

The 1988]89 Los Angeles District Auditions sponsored by the Metropolitan Opera National Council will be held October 20-22 in Hancock Auditorium at U.S.C. The auditions are open to singers between the ages of 19 and 35 whose voices are of the operatic caliber, who have had voice training, and who have the recommendations of two qualified sponsors.

Winners receive cash prizes and may compete in the Western Regional Auditions to be held November 10-12 at U.S.C., with the opportunity of progressing to the national finals competition at the Metropolitan Opera in New York.

Applications for the Los Angeles District Auditions, which are now being mailed to singers, voice teachers, and coaches, must be returned by October 6. Applications may be obtained by writing to Metropolitan Opera Auditions, P.O. Box 80638-A, San Marino, CA 91108.

### **Women Needed For Marine Ball**

The USO-Los Angeles Area needs young women, 17-25 years of age, from the Los Angeles area who would like to attend the U.S. Marine Corps Anniversary Ball, on Tuesday, November 8th at Camp Pendleton, or Saturday, November 12 at 29 Palms Marine Corps Base. The ball commemorates the 213th anniversary of the Marine Corps founding and promises to be the most exciting one ever. Featuring a gourmet buffet, dancing to a live band, a Marine Corps salute and free corsages for the ladies, this pomp and ceremony promises to be a memorable spectacle. Free transportation will be provided through the Los Angeles USO Club. Reservations are required. Please call (213) 462-6904 for an application.

### Natural History 75 Years Old

On Sunday, November 6, 1988, the Natural History Museum of Los Angeles County officially celebrates its 75th anniversary by offering free admission for everyone to visit the exhibits and programs of the west's largest natural history museum.

### Free AIDS Speakers Available

At no charge, members of the American Red Cross AIDS Speakers Bureau will come to speak to groups of six people or more and present the facts about Acquired Immune Deficiency Syndrome—AIDS.

The presentations stress the methods of transmission and prevention of the disease, and include a video as well as a question and answer period. For information, please call the Pasadena chapter of the American Red Cross at (818) 799–0841.

### ACADEMY BARBER SHOP

27 N. Catalina Ave., Pasadena Open Tues. -Sat., 8 A.M.-5 P.M. 449-1681

Sam Custom Jailor 3519 E. COLORADO BLVD PASADENA

(818) 793-2582 Hours: 9:00 a.m. - 7:00 p.m.

TAILORING for LADIES & GENTLEMEN

ALTERATIONS
RESTYLING
INVISIBLE REWEAVING
Special rates for Caltech/JPL community

### **Red Cross Disaster Training**

Red Cross Disaster Services volunteers are trained and ready to respond to assist the victims of any man-made or natural disaster every day of the year. Emergency food, shelter, medical attention, and other assistance is provided to disaster victims in order that they regain their self-sufficiency as quickly as possible.

Citizens interested in learning how to be of assistance to their friends and neighbors may become a volunteer for American Red Cross and sing up for free Disaster Services training courses and workshops on various facets of disaster work.

These Disaster Services courses are conducted at several Red Cross locations. "Introduction to Disaster Services" is a required prerequisite course to the diverse disaster classes. As an introductory class, "Intro" explains the Red Cross role in emergencies, before, during and after a disaster. Other courses offered include Emergency Assistance to Families, Canteen Vehicle Workshop, Damage Assessment, Mass Care, Shelter Management, Records and Reports, Communications Workshop.

Call the Pasadena Chapter at (818) 799-0841 for more information.

### **Social Security Booklet**

Social Security? Many people only know half the story. Get the whole story from the free booklet, "Social Security, How It Works For You." Call toll-free 1-800-937-2000 to request the booklet.

### **Natural History Volunteers**

The Natural History Museum of Los Angeles County is seeking people interested in making commitments as volunteers for the fall. Applications are available now for fall classes of the Natural History Museum's Docent Roundtable and Museum Service Council.

After training, Docents lead school tours, assist curators and host museum openings. Service Council members staff the museum's information/membership desk, give administrative support to various museum departments and help with special events and public relations.

Enthusiasm, a sense of commitment and a desire to be part of this dynamic and rapidly-expanding museum are the main requirements for volunteers. Both weekday and weekend opportunities are available.

Contact Isabel Rosenbaum, Volunteer Coordinator for the Natural History Museum of Los Angeles County, at (213) 744-3341.



# sports

# Young Harriers Lead Team

by Scott Kister

It's a bird, it's a plane, it's Jerri Martin. Who? That's right, Jerri Martin, Caltech's freshman running sensation. In her first collegiate race, Martin raced to an eighth place finish in the Chapman College Invitational. The meet included 15 teams, several of them Division I, and approximately 100 runners.

Martin, the Female Athlete of the Year at her high school, accomplished this after just five days of practicing twice daily at Caltech.

Martin is not the only surprise on the women's cross-country team. In fact, in what is surely a Caltech first, the women's team outnumbers the men's, even without their late-arriving captain, Bibi Jentoft-Nilsen. This is quite a turnaround from last year, when only Ami Choksi was ready to run in the first meet.

In addition to Martin, who had a time of 21:57 on a sandy, hilly 3.1 mile course, outstanding performances were turned in by junior Margi Pollack (24:29), sophomore Golda Bernstein (25:28), frosh Cathy Hafer (26:12), sophomore Liz Warner (27:26), frosh Mary Rowe (28:17), and senior Carmen Shepard (28:53).

Also racing for the Beavers were Emmeline Naranjo, Teri Englehard, Ami Choksi, Cynthia Wittman, Maria Toronto, Dee Morrison, and Anna Yeakley.

As a team, the women finished in ninth place out of the fifteen teams. This should easily be the best year ever, considering Bibi and the injured Betina Pavri did not run, and that the team has only been practicing for one week.

The men's team, facing the loss of their top four runners, used a very young team. In fact, the entire varsity squad selected by Coach Jim O'Brien consisted of freshmen and sophomores. Despite the inexperience, the team finished tenth out of fifteen.

Finishing first for the Beavers was sophomore, Scott Kister, with a time of 25:46 on the 4.1 mile course. Closely following Kister were sophomore Chris Campo (26:28); freshman Mike Mahon (27:41); sophomores Paul Socolow (28:11), Mark Lyttle (28:55), and Kurt Storm (29:33); and freshman Andy Crews (30:02).

Also finishing for Tech were Alex Duncan, John Bowers, Joe Fierro, Todd Kaplan, Steve McLaughlin, and Mike Ida.

This Saturday Caltech starts its conference season against Claremont, Whittier, and LaVerne at Bonelli Park at 5:00 pm. Frosh runners: don't get injured at Camp, and don't worry about missing the barbecue - they'll save you some food, really.

# Sports Writers Wanted

The California Tech is looking for writers to cover the following sports...

Football, Soccer, Water Polo, and Women's Volleyball

Call x6154 and leave a message for Scott Kister.

### WEEKLY SPORTS CALENDAR

Day	Date	Time	Sport	Opponent	Location
Day	Date		•		
Sat	9-24	5:00рм	Cross Country	LaVerne, Whit. & C-M	Claremont-Mudd
Sun	9-25	12 noon	Water Polo	Alumni	Caltech
Sun	9-25	1:00рм	Soccer	Alumni	Caltech
Sun	9-25	2:00рм	Football .	Cal Poly Frosh (Scrim.)	Caltech
Tue	9-27	7:30рм	Women's Vollyball	Cal St. San Bernadino JV	Cal St. SB
Wed	9-28	3:00рм	Soccer	Occidental	Caltech
Wed	9-28	4:00рм	Water Polo	Pasadena City College	Caltech
Fri	9-30	5:00рм	Cross Country	Masters, Christ College,	
			•	Pepperdine, Whittier, Loyola	
				LaVerne, So. Cal. Coll.	Caltech, Lower Arroyo
Fri	9-30	7:30рм	Women's Vollyball	Occidental JV	Caltech
Sat	10-1	10:00am	Soccer	Pomona-Pitzer	Pomona-Pitzer
Sat	10-1	2:00рм	Football	S. F. Valley Freelancers	Caltech
Sat	10-1	2:00рм	Women's Volyball	Redlands JV	Caltech



NOW SHOWING
HOLLYWOOD
MANN HOLLYWOOD • 463-9371

and at a select theatre near you

FORMULATE YOUR FUTURE

Engineering and science

students, the Air Force needs
you. Your degree plus Air Force
ROTC equals a commission as an Air
Force officer. You'll really use your degree and
work at the forefront of technology. Find out
about our success formula and Air Force
ROTC scholarships. Contact:

CAPT JOHN E. BRADY 213-743-2670



Leadership Excellence Starts Here

### LAEMMLE THEATRES

### **ESQUIRE**

2670 E. Colorado Blvd. (818) 793-6149

5 Australian Awards, including Best Picture

# THE YEAR MY VOICE BROKE

Mon-Fri 5:30, 7:45, 10:00 pm Sat-Sun 1:00, 3:15, 5:30, 7:45, 10:00 pm

Iran-Contra Cover-Up
Sat-Sun at 10 a.m. only

### **COLORADO**

2588 E. Colorado Blvd. (818) 796-9704

Ben Kingsley in

PASCALI'S ISLAND

Mon-Fri 5:00, 7:15, 9:30 pm Sat-Sun 12:30, 2:45, 5:00, 7:15, 9:30 pm

# what goes on

Announcements for What Goes On should be submitted on an announcement form available in the SAC copy/mail room (Room 37) or on a plain piece of paper. Please indicate the date(s) you want the announcement to run. Send announcements to 40–58, or put them under the door of Room 40A of the SAC. Announcements must be received by the

Announcements *must* be received by the Tuesday prior to publication.

#### **Bookbuilders West \$\$**

Bookbuilders West is offering \$1,000 scholarships to students in their junior year who are interested in pursuing a career in the book publishing industry. Each scholarship recipient will also be eligible for participation in a summer internship program. The deadline for application is October 31, 1988. For further information, please contact the Financial Aid Office, 515 S. Wilson.

#### **Amelia Earhart Memorial \$\$**

The Zonta International Foundation is offering grants of \$6,000 each to qualified women for graduate study in aerospace-related science or engineering in memory of Amelia Earhart. The deadline for application is December 31, 1988. For further information, please contact the Financial Aid Office, 515 W. Wilson.

**Engineering \$\$** 

The National Society of Professional Engineers is offering scholarships to undergraduate and transfer students who are pursuing a degree in engineering. The deadline for application is December 1, 1988. For further information please contact the Financial Aid Office, 515 S. Wilson.

### Railway Engineering \$\$

The American Railway Engineering Association (AREA) is offering two undergraduate research fellowships for engineering students who have a potential interest in railway engineering careers. The fellowships are in the amount of up to \$4,000 each. The deadline for application is October 15, 1988. For further information please contact the Financial Aid Office, 515 S. Wilson.

#### **Watson Fellowships**

The Watson Foundation provides post-graduation fellowships of \$13,000 (\$18,000 for married students) for a year of independent study and travel. Fellowships are not intended to support extended formal study at a foreign university. They encourage, instead, an informal break in the normal sequence of undergraduate/post-graduate education. Caltech students are frequently chosen for this award. In fact, a 1988 graduate, Ken Haynes, is on a Watson Fellówship this year.

Drafts of project proposals are due on Friday, October 14th. Seniors interested in applying for these travel fellowships should talk to Jeanne Noda in the Deans' Office, 102 Parsons-Gates.

### Theatre Arts Gets Organized

Caltech Theatre Arts will hold its organziational meeting on Sunday, October 9 at 2:00 pm in Winnett Lounge. Anyone who is interested in Theatre: be it acting, being on technical staff, playing in the orchestra, watching shows or just interested in having fun should be sure to attend. If you have any questions about the program, feel free to contact us at 356-6259 before the meeting. Hope to see you there!

### More Engineering \$\$

Equal Opportunities Publications, Inc. is offering two non-renewable \$500 scholarships to honor outstanding women, minority, or handicapped students who are pursuing a career in Engineering. For further information please contact the Financial Aid Office, 515 S. Wilson.

### SPERM DONORS NEEDED

STUDENTS • FACULTY
Earn up to \$105 per week
West Los Angeles location
call (213) 824-9941

California Cryobank, Inc.

Area's largest sperm bank

### **CLASSIFIED ADS**

SERVICES -

insurance war! We'll beat anyone's prices or don't want your business. Sports cars, multiple tickets, student discounts. Request "Caltech Plan." (818) 992–6966 or (213) 873–3303.

RATES.....\$3.00 for first 25 words; ...10¢ for each additional word. Send written ad with payment to 40-58. No charge for on-campus lost & found.

### Goddard Memorial Scholarship

The National Space Club is awarding a \$7,500 scholarship for the academic year 89-90 in the memory of Dr. Robert H. Goddard. The 1989 award winner will also be introduced to the nation's leaders in science, government and industry. The applicant must be a U.S. citizen, in at least the junior year, and have the intention of pursuing undergraduate or graduate studies in science or engineering during the interval of the scholarship. The deadline for applications is Jan. 6. For further information please contact the Financial Aid Office, 515 S. Wilson.

#### **Tutors Needed**

The High School Saturday Science Program will need tutors, beginning October 1 and ending May 13, 1989. Applicants may call x6207 or x6208 or come by Lee Browne's office at 515 S. Wilson.

#### JPL Arts & Crafts Fair

JPL/Caltech employees, contractors, their families and CEC members and their families will be exhibiting handmade craft items from October 21-23, to benefit the Child Educational Center. Registration for exhibitors closes on September 30. The CEC will receive 20% percent of the price of each item sold. For more information, call Peggy Panda (818) 397-9303 or Lisa Cain-Chang (818) 354-3418.

#### **Guitar Classes**

Guitar classes for the fall quarter will meet on Tuesday, starting October 4 in Room 1 of the SAC. The schedule is as follows:

Beginning class: 4:30-5:30 pm Intermediate class: 3:30-4:30 pm Advanced class: 5:30-6:30 pm

Classes are free of charge to Caltech students (and other members of the Caltech community, space permitting). Undergraduates can receive 2 units of credit of they choose. Classical and Flamenco repertoires will be explored but the techniques transfer to other styles of guitar. The Beginning class includes a jazz and folk chord system. Private instruction on any level can be arranged. The instructor, classical guitaris Darryl Denning, has an international recording, performance and teaching background and can be reached at (213) 465–0881.

### **Electron Microscopy \$\$**

The EMSA Council (Electron Microscopy Society of America) is offering an undergraduate scholarship program to further the educational and research potential in students intent in pursuing electron microscopy as a career. The applicant must be a U.S. citizen or resident alien and a full time undergraduate. The application deadline is Nov. 15. For further information please contact:

Dr. Robert Price
Bio-Architectonics Center
Case Western Reserve University
2119 Abington Rd.
Cleveland, OH 44106
or contact the Financial Aid Office, 515 S.

### NHSF \$\$

The National Hispanic Scholarship Fund is offering scholarships to Hispanic American students. The application deadline is October 5, 1988. For further information, please contact the Financial Aid Office, 515 S. Wilson.

### **Research Semester**

The U.S. Department of Energy has announced a research program open to juniors and seniors interested in biomedicine, chemistry, materials science, engineering, reactor physics, atomic physics, nuclear physics, high-energy physics, environmental science, geoscience, mathematics, computer science, energy systems, waste technology, nuclear medicine, and automated inspection/measurement systems. The program provides a stipend, housing and travel reimbursement for a variety of activities including hands-on research, seminars, academic courses and advanced instrumentation training. Applicants must be a U.S. citizen or a permanent resident and must have a GPA of at least 3.0

For further information stop by the Deans' Office. Applications are due by October 10, 1988 for the Spring, '89 program.

### **Solow Speaks On Productivity**

The Caltech community—students, faculty and staff—are welcome to attend the address that Dr. Robert M. Solow (Nobel Laureate, professor of economics from MIT) will be giving to The Associates prior to the Black Tie Dinner on October 5. The dinner following the address is by invitation for The Associates. The talk will be at 6:30 pm in Beckman Auditorium. The theme of the talk will be "American Productivity and International Competitiveness."

### Russian Language Workshop

The Caltech Russian Language Workshop has begun its 1988-89 season. The workshop meets each Wednesday evening in Steele lab, room 110, from 7-9 pm.

The study program is geared to present or former students of Russian who wish to maintain or update their knowledge of the language. Emphasis is on proverbs, vocabulary building, grammar review, selected readings and oral practice. For information phone Larry Mak (JPL) 77-46748, or simply stop by.

### **GEM Fellowships**

The National Consortium for Graduate Degrees for Minorities in Engineering, Inc. (GEM) is accepting applications for its 1989 Fellowship competition which will provide 150 awards to minority students in engineering.

gineering.

Designed for members of ethnic groups that are underrepresented in engineering, the program's goal is to increase the pool of minority students who receive master's degrees annually in engineering. At the time of application, the *minimum* academic requirement for the student is enrollment in the junior year of undergraduate study in one of the engineering disciplines. Those presently in their senior year or recently graduated are also eligible.

Each fellowship pays tuition, fees and a stipend of \$6,000 per graduate academic year, as well as provides summer employment with a sponsoring Member Employer. The total value of the award is anywhere between \$20,000 and \$40,000 and depends upon which Member University the Fellow elects to attend.

Applications must be received by December 1, 1988. Awards will be announced February 1, 1989. Information and applications may be obtained from:

STUDENTS —

GET \$4.00 OFF

GEM P.O. Box 537 Notre Dame, IN 46556

PARIAN TRAVEL

Most professional, courteous, economical and efficient service

for your official and personal travel needs.

Free service to you.

Airlines, Cruises, Tours, Hotels, Car Rentals.

Individual, Commercial, Groups. **(818) 577–8200** 

468 S. Sierra Madre Boulevard, Pasadena

Caltech Officially Approved

### Join Us At The Shuttle Landing

Come join Caltech SEDS at the landing of the Space Shuttle *Discovery* at Edwards AFB on Monday, October 3rd. We will be having a short meeting on Thursday, September 29th at 8:00 pm in Room 15 of the SAC, where we will discuss plans for the trip to the landing. If you are unable to attend the meeting, but would like to go to Edwards, call Irwin Horowitz at either x4051 or 577-2788.

### Fly High!

The Aero Association of Caltech (The Caltech Flying Club) is looking for new members. We have five aircraft based at nearby El Monte Airport with some of the best rates available. If you are a pilot, or would like to be, simply contact Jay Ebersohl at x6182 to find out how easy it is to begin earning your wings or keeping them.

#### **Hospice Volunteer Training**

Lay men and women and licensed nurses are needed to join a team of physicians, psychologists, oncology nurses and other health care professionals who provide in-home support to the terminally ill. Gain ability to deal with death and dying and to understand patient and family needs. Few of us are untouched by death and many are searching for ways to understand that experience and to cope with it. Interested volunteers should call Bobbe Mullen, Community Resources Coordinator for Hospice of Pasadena, at 577–8484 for an application. Training is scheduled for September 28 to November 2, 1988, six consecutive Wednesday evenings from 6-9 pm.

### Women's Trip To Scandinavia

San Jose State University is sponsoring a travel program to Scandinavia in June and July, 1989, focusing on women's issues, including equality, government, representa-tion, sports, the arts, academia, and the women's movement. There will also be seminars on international networking, wom-en's organizations, and the history of women in each country visited, as well as a chance to meet local feminists. The tour, led by Dr. Margaret (Meg) Bowman, noted feminist author and a member of the sociology department at SJSU, departs the U.S. on June 27, and will include Norway, Sweden, Denmark, and Holland, returning July 15. An optional extension includes a week in London. For further information, write: Travel Programs, Office of Continuing Education, San Jose State University, San Jose, CA 95192-0135.

### Y Book Exchange

Bring your used, unwanted textbooks to the Y. What we do is: we take them, display them on our bookshelves, and sell them to the poor suckers who will use them in the future. They get a good deal on textbooks, you get some of your money back! Let's band together to beat high textbook prices! They Y also has ring and report binders, and novels new and old.

### SAMPE Call For Papers

The Society for the Advancement of Material and Process Engineering (SAMPE) is now accepting abstracts for papers to be presented at next years' Third International Electronics Materials and Processes Conference. "Electronics Materials for the 90's and Beyond" is the theme of next year's conference.

Topics being solicited include engineering, low-dielectric materials, EMI/ESD shielding, electronics materials, conductive materials, electronics packaging, photonics, printed wire board materials, manufacturing process controls, surface-mount technology, advanced plastics and polymers, fabrication of electronics devices, microelectronics materials, electronics adhesives, coatings and encapsulations, and electronics ceramics.

To be eligible, two copies of 100 to 250-word abstracts should be sent to Program Chairman Fredrick F. Saremi, Keen Corporation, 9433 Hyssop Drive, Rancho Cucamonga, CA 91730, by October 14, 1988. All entries must include author's name, affiliation, business address and telephone number. Only unpublished work will be considered. Final papers must be completed and submitted by March 15, 1989. Provisions will be made for material subject to FEDD and other contract-limiting requirements.

For additional information about the Third International Electronics Conference, and SAMPE, please contact Marge Smith, business director, at P.O. Box 2459, Covina, CA 91722, or phone her at (818) 331–0616.

### **Hibbs on Noisy Interface**

The Caltech Management Association presents Al Hibbs, discussing "The Lab and the Campus—A Sometimes Noisy Link". The talk will be on Tuesday, September 27 at 5:00 pm at the von Karman Auditorium at JPL. Dr. Hibbs will trace the evolvement and intricacies of the Laboratory and Campus interface since he arrived on the scene in 1950. Dr. Hibbs graduated from Caltech in 1945, and after going away for graduate work, joined JPL in 1950 and remained there until his retirement in 1986.

### **Music Auditions**

Caltech's Wind Ensemble, Jazz Bands, and Chamber Music Ensembles will hold auditions on Sunday, September 25 from 1-4 pm and Monday, September 26 from 3-6 and 8-10 pm in Room 12 of the Student Activities Center.

These are non-competitive auditions, and returning students do not need to play. Please call William or Delores Bing at (213) 684–8964 if you have any questions.

continued on page 7

### CCO 1a

### COMPUTING FUNDAMENTALS

C will be taught this term

ORGANIZATIONAL MEETING

Tuesday, Sept. 29, 3 P.M. • 102 Steele

CAMPUS COMPUTING ORGANIZATION

### THE CALIFORNIA TECH

Caltech 40–58 SAC Pasadena, California 91125

Shampoo, Style Cut

MEN Reg. \$20.00 NOW \$16.00 WOMEN Reg. \$25.00 NOW \$21.00

449-6967

1009 E. COLORADO • PASADENA

Offer valid only Monday-Friday, expires June 30, 1989