Zewail wins Nobel Prize

Tuesday, October 12, 6 AM.

Dr. Ahmed Zewail got a long distance call that left him "frozen in time" as he described it. On the other end of the line was The Royal Swedish Academy of Sciences, paying him back for 20 years of frozen moments. The Academy awarded Zewail the Nobel Prize in Chemistry "For his studies of the transition states of chemical reactions using femtosecond spectroscopy."

In the late 1980's, Zewail's search group performed experiments which pioneered the ultrafast examination of chemical reactions. Since the 1990's, chemical physicists have questioned how reactions occur on the molecular level, developing elaborate theories about transition states and activation energies to explain how reactants shuffle into products. However, never before had it been possible to verify these theories with direct measurements.

News of the award spread rapidly across campus. Public Relations staff members were awake by 6:30, busily preparing for an Athenaum press conference, and congratulatory signs appeared in Noyes almost as early. At least one chemistry class was canceled for the 10:30 press conference, giving Zewail a leg up on Columbus, whose holiday had passed the previous day with scarcely a nod. Reserved, but clearly excited, Zewail was joined by President David Baltimore to field questions from the media. David Tirrell and Tom Tombrello, respective chairs of the chemistry and physics divisions, were also present, as was Vice President Steve Koonin. Reporters directed questions from a variety of angles; some tried to comprehend the basic elements of Zewail's work, while others went trolling for a miracle drug or medical bullet. His replies were cautious, giving simple examples and stressing that applications would come as the basic fundamentals of molecular chemistry are remastered. The only cure he mentioned was the prize itself. "I recommend the Nobel Prize to anyone with a cold," he said. Appar-
Housing overflow leaves problems unresolved

This is in response to the article regarding housing in last week’s issue of the Tech. Evidently, the reporter neglected to interview the houses’ members when the article was written. I am one of the people who live at 555 Catalina and I can assure you, it is nowhere near the "palace" described in the article.

From the information I have received so far, I get the impression that nothing was done to accommodate the students until the end of August. When I arrived at the house, several days into the term, the smell of paint was overpowering—I feel sorry for those who actually arrived before I did. Even now the smell is quite noticeable. The paint is starting to peel, on account of the workers using water-based paint over the old oil-based paint without doing any of the processes that is normally done when a new layer of paint is applied (such as, say, removing the old layer of paint).

We have yet to get an Internet connection—the only way we can online right now is to use the dial-up to ITS. Unfortunately, there’s only one phone line for the 11 (soon to be 12, I hear) of us living there, making that quite unfeasible. The doors to the bathrooms don’t lock properly, and to compound the problem, each bathroom upstairs has only two doors—one leading to a girl’s room, the other leading to a guy’s room. Up until last week we had workers coming in and out unannounced.

They’ve accomplished is still rather debatable. One came merely to put numbers over each of the doorways leading to our rooms (though to his credit, he was flanked by someone else who I believe carried off a window). Another, for some reason, seems to have cut off the middle of some trees—but left the roots on the ground and the branches hanging off of the tree—and it looks exactly as I’ve described, a tree with the middle cut out. The driveway is hard and uneven, though that’s not exactly high on our list of concerns right now. I’m sure we’re breaking quite a few safety codes at the moment. If a fire started on the wooden (and only) staircase leading to the bedrooms upstairs, we would be quite trapped without an avenue of escape. Oh, true, we could probably jump out the window, but with the backyard being nothing but dirt at the moment we wouldn’t have anything soft, say bushes, to land on. Hope there’s no rain for a while. From what I know, the neighbors aren’t too happy about—they don’t want a bunch of crazy college students playing loud music and having parties next door.

Considering the amount of time Housing has had to improve the house, I have to agree that they did an admirable job. But nonetheless, there is still much that needs to be repaired, and the house is nowhere near the provincial residences that were implied in the article. The crisis has not been averted, it is still there. Though places have been found to house the students, there is still much that needs to be done before the house becomes fully livable.

Chuck Hsiao
Fastro food preparation.

After the press conference, celebration spread to Noyes, where colleagues and students toasted Dr. Zewail’s accomplishment with champagne. Several individuals hinted that they had anticipated the award for some time. One graduate student, working late in the lab, was rumored to have checked the net regularly until the announcement was released. Dr. Vincent McKoy, Professor of Theoretical Chemistry, noted that the Swedish Academy had solicited Zewail’s nomination every year for the past five years. Zewail seemed less certain. “As a boy, I never, ever dreamed that I would get a call from Sweden,” he said during the press conference.

Dr. Zewail was born in Egypt in 1946, where his early fascination with chemistry terrified his mother. “She thought I was going to burn down the house,” he said. After graduating from the University of Alexandria, he came to the US and completed a Ph.D. at the University of Pennsylvania. This was followed by post-doctoral work at UC Berkeley and a faculty position at Caltech in 1976. Appropriately, he has held the James Pauling Chair of Chemical Physics since its creation in 1990. One of Pauling’s greatest contributions to chemistry was a unique perspective of the chemical bond. Zewail has continued in a similar vein, creating pictures which deepen that perspective.

Fundamental to ultrafast spectroscopy is the femtosecond, 10^-15 seconds. Molecular vibrations occur on the order of 10-15 fs, so femtosecond spectroscopy can capture bonds as they stretch, break and reform. Beyond this point, faster measurements do not provide more data; information is lost in Heisenberg’s quantum never-never land. The Swedish Academy’s extended citation notes that “The contribution for which Zewail is to receive the Nobel Prize means that we have reached the end of the road; no chemical reactions take place faster than this.”

Down in the depths of “Femtoland,” labs occupied by the Zewail group in the subbase-ment of Noyes, fast laser pulses achieve this diminutive resolution. A high energy “pump” pulse initiates a reaction by promoting molecules to higher energetic states and weaker probe pulses measure species behavior. Early experiments studied simple processes, such as the dissociation of iodocyanide (ICN) or sodium iodide (NaI). Zewail noted that, over the past 22 years, more than 100 people in his group have expanded and refined femtochemical techniques. He looks forward to studying the reaction dynamics of biological molecules, such as proteins, and other complex systems, in the near future.

Zewail, the 28th Caltech-affiliated Laureate and the second chemistry Laureate this decade (the other being Rudolph Marcus, 1992), will be awarded his prize in Stockholm, Sweden, on December 10, the anniversary of Alfred Nobel’s death.
Blended

Caltech starts web mentor program

Career opportunities, networking abound for Techers

BY KIM GOODFRIEND

Caltech has recently instituted an exciting new program called Connect@Caltech that is designed to help members of the Caltech community “connect” with each other via mentoring and networking relationships. Many alumni have already volunteered to provide information about graduate education, careers, and workplaces in science and technology to assist others in finding their place in the “real world.” They have done so by filling out a fairly extensive data sheet available on line. Anyone with an account on the ITS UNIX cluster, JPL staff, and post-docs can access the Connect@Caltech web site, fill out the data sheet, or search this database many different ways to connect with Caltechers. Our hope is that you will find resources on this web site that can help provide general important information, answer your specific questions, and potentially begin to develop a relationship as a mentor if you so desire.

The web site also has valuable information on the art of mentoring and the use of networking. No doubt you will learn a great deal by reading through the text. You will also find articles on networking and mentoring, interviews with prominent Caltechers who excel in this process, and links to other sites that, as members of Caltech, are available to you. Networking and mentoring can be an important part of a person’s undergraduate, graduate or postdoctoral experience. Although faculty plays this part in many instances, alumni are available to give information and advice in different areas of the job search or graduate school process. For example, an alum may be able to set up a “shadowing” session at their place of employment so that you can see the day to day experience at a real company. During the next several weeks, you will find interviews with faculty, staff and students who have been identified as skilled networkers and mentors. If you have any doubt about the place of mentoring in your life, see what others have to say on the subject.

Staff, faculty, graduate students and post-docs are invited to fill out the data sheet as well. The more information available to the campus community, the more effective Connect@Caltech will be for everyone involved. Connect@Caltech has been organized by the Career Center, the Alumni Association, the Ombuds office, the Women’s Center and the International Students Program.

A.S.C.I.T.

Minutes

Present: BoD minus Danny “never goes to ASCIT meetings” Abrams

Meeting called to order at 22:04.

Dealing with Guests

Keshav Dani representing OASIS came to the ASCIT gathering last week (no quorum) and requested $250 for the OASIS festival held on Sunday, October 10 at 5pm in Baster Hall with various cultural performances and presentations as well as dinner.

Project Reports

ASCIT/GSC/VCY Party - Garrett reported last week that this party held on Saturday October 2, 1999 was a success. Lots of people came out and had a good time.

Coffeehouse - Baldeep says it will be opening on Sunday and the Grand Opening will be on Monday. Go figure.

ASCIT copier - Derek will look into making it good for everyone involved.

Connect@Caltech has been organized by the Career Center, the Alumni Association, the Ombuds office, the Women’s Center and the International Students Program.

Background Noise

By Ron Dollette

Okay, I know it's been a long time, but the music scene has been kind of subdued until recently. I don't have to mention that if Adam Sandler releases another album, it better not be the same one trick pony. We all loved the goat and the cow so und... Santana's CD is so awesome, he even made the guy from Matchbox 20 sound above average. Well done, Carlos.

My real pick of the week though is the new Bloodhound Gang. Don't go to Tower to find it, though. Hooyay for Booby belts heralds the return of Philly white boy rap, whose themes range from getting drunk to getting laid. As a true sign of the times, the lead single “Bad Touch” is getting a couple of techno remixes from KMFDM and God Lives Underwater. I think the one of the best is “Vagina,” which is probably too tasteless to mention here, but trust me that it’s the funniest politically incorrect song since “Hold Your Head High And Blow Your Brains Out.” Other great songs include “Mope” (which is just another sign that you can never really get rid of the cheesy 80’s) and “Bad Touch,” which makes me want to do it like they do on the Discovery channel.

Did you know that the first Tech was designed to be a perfect newspaper? It was a disaster. No one would accept the workload. Entire pages were lost. Some believe that we lack the necessary page layout skill to describe your perfect Tech, but believe that, as Caltech undergrads, you take pleasure in apathy and procrastination. Which is why the Tech was redesigned to this - the peak of your school’s newspaper. And I say “your” newspaper, because when we start writing the articles ourselves, it really became “our” newspaper, which of course is what this is all about.

Writing for the Tech, Techers, Writing for the Tech. Like the Ma 1a student. You’ve had your time. The Tech is... our time. I must get out of here... I must get free and in this tech is the key... my key

Write for the Tech
Perfect Blue, Manga Entertainment's first Japanese animation title to hit the US art house circle since Ghost in the Shell, opened last week at the Laemmle Colorado Theatre. It was too bad that the picture quality of the film seemed unusually poor; perhaps it was the film itself or Laemmle's projector.

Perfect Blue is the story of young Kirigoe Mima, one third of the idol singing group Cham. She is pushed from her idol career into the more lucrative acting direction by her arguing agents. However, while idol singers are supposed to be cute and pristine, the acting world is looking for someone a little bit more 'marketable'. Mima, not very mature herself, is not quite ready for this kind of change.

Adding to her apprehension are a series of threats and murders that seem to plague the psycho-thriller series for which she now works. Mima finds her new and unsure self at odds with the happy idol singer she used to be. The movie delightfully plays with reality, showing warped views from the eyes of Mima and others.

Of course, the film takes the easy way out in tricking the audience. The television series, Double Bind, is so much like the reality in Perfect Blue, as both focus on the psychology of a deranged killer. It seems a little too convenient at times. Adding to the confusion is a mis-dub of one of the names at a key point towards the end of the film.

The dubbing of the film suffered from the usual problem, that the voice actors are straining to match the mouth movements of animation characters speaking in a radically different language. Hence, the voice acting is often a lot better when you cannot see the character's lips moving.

The voice casting seems 'okay' at best. Mima's voice just cannot match the range that she was supposed to have. The 'cutesy' Mima-the-idol voice does not quite match the tone of the original. The other female voices, like those of Yokiko and Rei, the other members of Cham, sound ready to lead into a rendition of "Bulbasaur! I choose you!"

Me-Mania, the creepy fan, sounded very good, as his voice came out just as strange and annoying as in the original. Also, the voices of the three normal fans, who's pitiful commentary on media and fandom are ever so entertaining, are done very well.

The translations of the Cham songs were done surprisingly well, as often it is the songs that are translated the most horribly. Of course, Manga Entertainment had the advantage that Cham is just an idol group and their songs are basically fluff. Plus, most of the time when Cham sings, the music drowns out the singing, which was not the case in the Japanese version.

Manga also chose not to subtitle too many of the written words on the screen, meaning that a lot of the important webpages or signs are left to the non-Japanese enhanced viewer's guess. When they do choose to subtitle, the words are horribly mistimed. For a couple seconds, there was just an image of Mima with the word "Traitor" under her, until the shot changed to the fax machine which was printing out the actual message.

While Perfect Blue does have fair dubbing for an anime title, an interesting plot, and of course a share of violence, gore, and nudity, Mononoke Hime, which will be coming out from Miramax shortly, has the obvious lead in attracting more people to Japanese animation. Perfect Blue is quite incredible considering it was Kon Satoshi's directorial debut (though having a stellar Studio Madhouse affiliated staff probably helped.) Perfect Blue won the public prize for the Best Asian Film at Fant-Asia '97.
Rotation is over and now the real pain begins. But I wish to write more about Rotation, specifically the Rules, their intent, and why they should be abolished.

First off, one of the basic principles of science, and thus Caltech, is the sharing of information. I don't think anyone at Caltech would disagree (in almost all cases) with the statement: "More information is better." The more you know, the more informed a decision you can make. A more informed decision is usually a better one. Certainly, however, the information you get must be accurate in order to make a correct decision. When we apply this to Rotation, the idea of the Rules naturally comes about as a solution to the problem of misinformation.

In this case, however, I would argue that the cure is more fatal than the disease. Rather than misinformation being contained thanks to Rules, little or no information about the Houses is actually spread! The information that is spread is usually in the form of innuendo, jokes, and sometimes blatant violations of the rules that blemish Houses. Most frosh, in my estimation, don't really know much at all about the Houses when they enter or exit the Rotation process. Why is this? For one, the Rules prevent upperclassmen and other frosh from discussing what they know or think about various Houses. Not only that, people are unsure of what they can say, and hence they say nothing at all of substance. This leaves the frosh with a blank impression of the Houses and the idea that they're being lied to. In actuality, they are being lied to. Rotation is like a commercial for a used car lot.

You've got an annoying spokesperson, who is obviously lying through his teeth, shouting, "we've got loads of cars, trucks, and SUVs at low, low prices!" while displaying a sea of nearly new looking cars. Then you get there and find an old, broken down Pinto with 200,000 miles on it going for $8000. Only difference is that in Rotation frosh don't know what they're getting until they buy!

Let's look at some of the other Rules, too. First off, the driving rule. I don't really see why this is necessary. How does this "unfairly bias" anyone? I mean, cars are not that uncommon at Caltech that they should be considered a controlled substance. I would assume that the distribution of cars throughout the Houses is relatively flat (meaning no one House has a higher percentage of drivers than any other), so there is no advantage among the Houses at all. If an individual wants to give a frosh a ride, I don't see any problem with that, either. Will this confuse the frosh? Are they not intelligent enough to realize that just because someone from a particular House decides to give them a ride that not everyone from that House will do the same? Or maybe it's so that the frosh don't get the wrong impression of a House (as in, they do a lot of going places during Rotation but not after). As if none of the Houses try to give a false impression during Rotation already. I have particular contempt for this rule, as I have a number of friends who were Frosh SURFers. I've known these people for almost 4 months and become close with some, yet before and during Rotation if I want to go somewhere beyond the "allowable radius" I can't take them with me? Bull.

Next, the alcohol rule. It was my understanding that the Alcohol policy took care of this. Isn't it redundant to have a Rotation Rule that simply makes the Drug and Alcohol policy more specific? It's like we're saying that we really don't care much about Institute Policy, unless it's di-
rected toward a frosh during Rotation. Why not just make Rotation like any other official party? Require that all parties serving alcohol on-campus have bartenders. I read a clarification that talked about how frats at MIT got a bit out of hand and students died in drinking/hazing events. I don't see why this would be so much more of a problem during Rotation or why we care about it more during this particular time than any other. Sure, it would be a bad thing if a frosh died because of alcohol or other drugs, but wouldn't it be equally bad if it were any other student? Hell, if anything, we need less frosh so we can have more space on campus! And how hypocritical can we be? After Rotation is over the frosh will be chugging down the alcohol with the rest of the upperclassmen, sometimes more in certain Houses! But during this special week (and before it, too), it's very important that they don't get any alcohol. Gimme a break!

Another Rule I think is silly is the distribution of information about the actual picks procedure. I don't think this should be secret at all. As I said from the start, more information is better. People should be able to make up their own minds given all the facts. If they don't have the facts, they can't make a fully informed decision. Why should the frosh be insulated from the picking procedures? Will they provide such insight into Rotation that people can "play the system" to get into a particular House? If they would, maybe the system should really be changed! And if a frosh thinks that he can do so, let him! Who will be hurt except the frosh? We shouldn't prevent people from their own stupidity. This summer an unknown individual distributed a copy of the picks procedure to all the Frosh SURFers. How accurate it was, I have no idea, and I have no idea who did it (I don't think it was necessarily a good idea in practice, but I support it in principle), but the IHC wasn't too happy about it. This shouldn't be a problem! As in the past, the picks process should be published in the Little T and available to everyone in the spirit of informed decision-making.

That's pretty much all the rules I disagree with, and those are the most important, anyway. Requiring frosh to attend all their lunches and dinners is a good and necessary rule. Any rules the Houses want to keep themselves in line are probably a good idea. For example, the excessive gifts rule: I think it would be out of line for a House to buy a frosh a sports car! Now, the big question is, without the rules, how do we protect frosh from "unfair bias?" I think it's pretty simple: there should be a "Guidebook to Rotation" given to all frosh (and upperclassmen, maybe) that explains various facts about Caltech, the Houses, the students, and Rotation itself. The only reason I can see for the rules, as I stated earlier, is to protect the frosh from their ignorance. They don't know anything of the social dynamic at Caltech and wouldn't know what to believe. A guidebook could eliminate many malicious rumors, make the frosh more knowledgeable about the Houses and their members, and give them the information they need to make an informed decision. An example: the Guide can explain that most members of one particular House don't really know much about the other Houses (as they primarily spend time interacting within their own House), so any opinions they offer may or may not be based in reality. If an upperclassman does claim to know about other Houses, then the frosh will just have to make up his own mind about that person's opinion. In essence, the Guide should explain the spirit and motivation behind the current system of Rules. This would be a far superior method of "protecting" the frosh: rather than shield them behind rules that limit their knowledge, arm them with knowledge of their own! Everyone would feel better: the frosh would know what is really going on, the upperclassmen could talk and act like normal people (well, as normal as they usually are), and Rotation might actually be useful!

And if I click my heels together three times I'll end up in Kansas!

Jason Meltzer is an oft contributor to the Tech. His opinions are not the opinions of the Tech.
Nobel Celebration

Ed Lewis, left, watches the press meeting from behind a forest of cameras.

Zewail accepts congratulations outside of Noyes with his wife Dema, right.

Members of the Zewail group look pleased with their mentor’s achievement.

Harry Gray celebrates the prize announcement with Dennis Dougherty, left, and David Tirrell, right.

Linus Pauling, left, with Ahmed Zewail in 1986.

Caltech Laureates

Robert Millikan
physics 1923

Thomas Morgan
medicine 1933

Carl Anderson
physics 1936

Edwin McMillan
chemistry 1951

Linus Pauling
chemistry 1954

William Shockley
peace 1956

George Beadle
medicine 1958

Donald Glaser
physics 1960

Rudolf Moessbauer
physics 1961

Charles Townes
physics 1964

Richard Feynman
physics 1965

Murray Gell-Mann
physics 1969

Max Delbrück
medicine 1969

David Baltimore
medicine 1975

Renato Dulbecco
medicine 1975

Leo Rainwater
physics 1975

Howard Temin
medicine 1975

William Lipscomb
chemistry 1976

Robert Wilson
physics 1978

Roger Sperry
medicine 1981

Kenneth Wilson
physics 1982

William Fowler
physics 1983

Rudolph Marcus
chemistry 1992

Edward Lewis
medicine 1995

Douglas Osheroff
physics 1996

Robert Merton
economics 1997

Ahmed Zewail
chemistry 1999

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1 Based on $250 billion in assets under management, 2 Standard & Poor’s Investor Survey 2000, 3 Morningstar's Investor Survey 2000, 4 Standard & Poor’s mutual funds included in Morningstar’s, the average fund had total fees (including operating expenses at 8090% plus an insured expense of 0.35%). TIAA-CREF expenses are subject to change and are not guaranteed for the future. Past performance is no guarantee of future results. TIAA-CREF Institutional and Individual Services distribute CRE F certificates and interests in the TIAA Real Estate Account. For more complete information, including charges and expenses, call 1-800-842-2776 or write for prospectus. Read them carefully before you enter or send money.
Sportainment

Reduced Shakespeare Co. gives reduced quality, humor

Performance in Beckmann Auditorium punctuated with bad jokes, super soakers, and horrible puns

BY ELAINE OU

From the notorious (or rather obscure) artists of such travesties as some piece involving Shakespeare and a series of creation entitled The Complete ... comes the Reduced Shakespeare Company's newest day and a musical attempt at a comedy the past one thousand years. This presentation thankfully seemingly random events from 9, in the Beckman Auditorium. Formed for two nights only, Friday and Saturday, October 8 and 9, in the Beckman Auditorium. This event was hosted by Caltech's Office of Public events to bring performing arts to the Caltech community. And bring the arts it did! The Friday night performance was followed by a small reception in the Avery courtyard, and was quite superb. The wealth of refreshments featured a fruit filling cake with an assortment of pies and other fine desserts. The cheesecake was especially dazzling, finely complemented with inexpensive wines and coffee, although the variety of exotic fruits available was not to be matched either. Decent quality cheeses and the raspberry tea made this reception an opportunity which comes only several times in a lifetime! To top it off, the actors were present at the reception so that attendees could meet them and tell them how much they sucked! Ah, it was most certainly the soirée which drew such an abundance of starving college students to the performance itself. The brilliant virtuoso and sheer ingenuity behind this function made it a remarkable tour de force winner!

The performance itself, however, sucked. The Reduced Shakespeare Company consists of three mildly talented individuals, Reed Martin, John David Pohlhammer, and Taylor Young, gifted with a flair for obnoxious songs and offensive humor. Who knows what they were thinking when they wrote the script; perhaps it may have been amusing for those who enjoy this type of low-brow filth, but those who come to the Beckman Auditorium (myself, at least), a historic landmark representing the tradition and culture of Caltech and the rest of Pasadena, have a tendency to expect something a little more tasteful. Instead, we found our finest tiresome damaged by water sprayed from hydraulic weaponry intentionally aimed at the performers on stage towards the sitting (and not to mention defenseless) audience in the most disdainful form of attack. The irreplaceable furnishings within the Beckman Auditorium were also permanently damaged by the large amounts of water, I'm sure, but this is simply incomparable to the ugly blenheim which will long remain in the memories of the once untainted spirit of the monument. And, to think that anyone had to shell out $5.00 and two irreplaceable hours of their life to watch this just makes me want to say: "Show me the Monet!"
October 15, 1999

Comics

FoxTrot by Bill Amend

WE'RE SHOOTING A VIDEO?

This video tape is all that remains.

They were never heard from again.

In 1999, two students went on a search for the fabulated Purple Witch.

WE'VE BEEN INSPIRED BY THE SUPER LOW BUDGET "SLAUGHTER WITCH" PRODUCTION. FROM WHAT WE'VE HEARD, IT SOUNDS LIKE SOMETHING WE'D LIKE TO TRY OUR HANDS AT.

I saw it last week. It melted in the sun. It's just a bunch of garbage.

I'll bring "White Trash" tonight but no sign she's going to be at the premiere. Perhaps she is a gift.

Thank you, we have enough boxes in there?

Here's our local.

LET'S TALK TO HIM.

ENGINEERING, WHERE PEOPLE TO BE THE "IGE WITCH".

WE'VE BEEN INSPIRED BY THE SUPER LOW BUDGET "SLAUGHTER WITCH" PRODUCTION. FROM WHAT WE'VE READ, IT'S THE SORT OF FILM WE'VE DREAMED OF MAKING OURSELVES.

They were never heard from again.

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Most of you students are at Caltech to become Scientists or Engineers and are eager to reach that goal. The gaggle of scholars pictured by Hogarth (1697-1764) in his etching "Thaum Vaccum, however, looks less interested. They yawn, scowl, chat among themselves, even sleep, dressed in their fancy robes and gowns, displaying an assortment of mortarboards, velvet berets and other head gear (but no tassels). You can see a copy of the engraving by looking up the Science article I will refer to in the next paragraphs, or better yet, by pointing your browser to (www.haley Steele.com/hogarth/plates/lecture.html).

All right, let’s turn the clock forward for some 300 years. Today, popular caricatures commonly show scientists as evil Frankensteins or as out of touch, bumbling elders in dire need of a haircut, clones of Einstein, including his heavy foreign accent. And tomorrow, Saturday, October 16, 99, you can see for yourself the scientists of the future giving, for the most part, their very first scientific presentation. It is SURF seminar day, where students will present the work they did last summer. (The talks start at 10am. Information and programs available 9-5:30pm on San Pasqual Mall.)

Now scientists are just people, with the whole gamut of personalities and attitudes encountered elsewhere in humankind. Some are fat, some are bald, some are dandies and others could not care less what they wear. So then, what is it that distinguishes Caltech profs and scientists from it. Scientists gain their epaulettes by peer recognition. Does that mean that Ahmed Zewail, Caltech’s latest Nobel winner, had the prize in mind when he started out? Franck explains that a researcher’s career depends heavily on the Science Citation Index. (This is a tally of how often individual papers are quoted by other scientists, thus providing a measure of the “importance” of the work. Not everyone, including Franck, agrees that this is a good measure of scientific importance, but it represents a stab at quantification.) The best scores (the more attention a piece of work elicits) lead to the greatest rewards. The competition that this perspective generates is thought to shed light on (all?) aspects of the science endeavor. Franck even explains the honesty of scientists by this principle. Although there is a temptation to grab attention by unscrupulous claims, it is counterproductive to waste time on non-sensical, even though highly touted, claims. Such a behavior, all would agree, leads to the abyss. Remember Cold Fusion, where extraordinary claims were made, grabbing an enormous amount of attention, until the work was discredited, along with the scientists who presented it.

Eventually, as he proceeds with his argument Franck is led to proclaim “Attention is the resource whose efficient use is called intelligence.” Wow! While I can wholeheartedly support some asp ect of what the good professor says, methinks the man goes a bit far.

Reading the Franck article made me question my own motives in becoming a scientist. Did I choose a career in science because of a need for recognition? Did the SURFers work to receive the praise we will shower on them tomorrow? (Programs are available on the San Pasqual Mall so you’ll be able to find the students you would encourage.)

For my part I remember, when I was very young, having read to me, and then reading on my own, the science-based spins of Jules Verne. Later, I read books like Paul de Kruif’s “Microbe Hunt” and a biography of Louis Pasteur. I quickly made an emotional connection to Pasteur who started his academic career in my hometown. I often passed by the house where he had carefully sorted crystals of tartaric acid by shape. He had ended up with two piles, one of which turned out to be levo rotatory and the other dextro rotatory. And the first person saved from rabies using his vaccine was Joseph Meister, a youngster from a nearby village. Although reading these accounts made a deep impression, I cannot truly say that reading biographies of scientists led me to take up science. Maybe it was the other way around; that is, being interested in science, even without being aware of it, I just enjoyed these particular stories over others.

Having doubts about the importance of notoriety as the motivating force behind my own scientific career, I find it hard to imagine that it would nevertheless play a determining role for other people. There is no question that being recognized by one’s colleagues is a powerful positive reinforcement. And yes it was important that my work attract attention because otherwise I would not have been able to compete for the funds to continue. But that does not mean that I decided to do research because it would bring me approval and notoriety. How could I have known about that before hand?

So neither kudos nor Euros (well, Dollars) propel me. Much more important, I believe, was the pleasure and excitement I derived from the process of discovery. Even as a child I wanted to know how things worked, how they were put together. It seems to me that gaining notoriety is just one of the many things which go into the mix.

I wish you all, especially the SURFers on this Seminar Day, pleasure in discovery. As to notoriety, come what may!
The California College Republics are currently expanding across campuses in Los Angeles County. It is a volunteer organization that works to get Republican candidates elected, while focusing on issues and putting on events that are of interest to college students. If you would like to start a chapter at Caltech in time for the 2000 election, email Amanda Gregory at agregory@usc.edu, Southern Vice Chair California College Republicans, at agregory@usc.edu, or call her at (562) 425-8509.

The Vice President for Student Affairs Office is looking for readers to assist a student starting immediately. Basic understanding of Computer Science or Engineering majors are preferred. A basic understanding of the subject matter, flexibility, and good communication skills are necessary. Hourly rate paid. Please call or email Jeff Greene, x6321, jeff@caltech.edu

**ANNOUNCEMENTS**

**The Dean of Students Office**

- **Events**
  - Fri., Oct. 15, 7 p.m. - Men's Soccer at Claremont-Mudd-Scripps (Claremont, Calif.)
  - Fri., Oct. 15, 7:30 p.m. - Women's Volleyball at Redlands (Redlands, Calif.)
  - Sat., Oct. 16, 9 a.m. - M&W Cross Country at SCIAC Multi-Duals (La Mirada, Calif.)

**Mandarin Cuisine & Seafood**

- **Cocktail Lounge**
  - Lunch Specials 411/2 - 3:00 p.m.
  - Early Bird Specials 56 - 7:30 p.m.
  - Classic Dinners 3 - 10 p.m.

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**SCHOLARSHIP**

- **The Hispanic Scholarship Fund** (formerly the National Hispanic Scholarship Fund) is accepting applications for scholarship awards ranging from $500 to $2,000. Applicants must be U.S. Citizens or permanent residents of Hispanic heritage, full-time undergraduate or graduate students, and already completed at least 45 units of undergraduate work with a minimum 2.5 GPA. For further information, please contact the Hispanic Scholarship Fund at (213) 761-8885 or (818) 464-3331.

- **The Jewish Free Loan Association** is offering scholarship grants to U.S. citizens, have a 2.7 GPA or above, and demonstrate financial need. For further information, please contact the Jewish Free Loan Association at (213) 761-8830 or (818) 464-3331.

- **The John Gyles Education Fund** is offering scholarship awards up to $3,000 for the 1999-2000 academic year. Applicants must be Canadian or U.S. Citizens, have a 2.7 GPA or above, and demonstrate financial need. Criteria other than strictly academic ability and financial need are considered in the selection process. To obtain an application, send a self-addressed, stamped envelope to: The John Gyles Education Fund, Attention: The Secretary, Box 4080, 712 Riverside Drive, Frederick, New Brunswick, Canada E3B 5G4. Applications due for Spring 1999 are April 1, June 1, and November 15.

- **The Measurement Science Conference** is accepting applications for scholarships to support students in an Engineering or Science that Quality Assurance and/or software engineering program places emphasis on papers or projects that discuss the advancement of measurement science. Applicants must be U.S. Citizens, have a overall grade point average of 3.2 or higher, completed at least 24 units of upper division courses in Engineering or Science degree or five courses in a Masters Degree Program in Quality Assurance. Current members of the MCS Committee are ineligible for this scholarship award. Applications must be received by the Measurement Science Conference LunchRoom located at December 20, 1999, at the Disneyland Convention Center in Anaheim, California. Applications are available in the Financial Aid Office. For further information please contact: Rick Careyette, MSC scholarships Chairperson, Teledyne Electronics Technologies, Marina del Rey Facility, 12964 Panama Street, Los Angeles, California 90066-6634. Entries must be submitted by November 26, 1999.

- **The Jewish Free Loan Association (JFLA)** is accepting applications for scholarships. JFLA is offering scholarship awards ranging from $500 to $2,000. Applicants must be U.S. Citizens, have a overall grade point average of 3.2 or higher, completed at least 24 units of upper division courses in Engineering or Science degree or five courses in a Masters Degree Program in Quality Assurance. Applications are available in the Financial Aid Office. For further information please contact: Rick Careyette, MSC scholarships Chairperson, Teledyne Electronics Technologies, Marina del Rey Facility, 12964 Panama Street, Los Angeles, California 90066-6634. Entries must be submitted by November 26, 1999.

Students and faculty are invited to submit proposals to the National Collegiate Inventors and Innovators Alliance (NCIIA) by December 15 to fund student projects and faculty courses and programs that enable students to pursue the development and start-up leading to commercialization of their innovations. Two types of NCIIA grants are offered: Advanced grants of up to $20,000 to student innovators to provide support for the development of new products and technologies with commercial potential and Course and program development grants of up to $50,000 to faculty to provide support for the creation and operation of classes and programs. Please contact the NCIIA to obtain additional information at www.nciia.org, or by phoning Phil Weilstein, NCIIA Director, at 413-587-2172.

To submit an event for the Mints, contact mints@tech.caltech.edu or mail your announcement to Caltech 40-58 Attn: Mints. Submissions should be brief and concise. The editors reserve the right to edit and abridge all material. Deadline is noon Wednesday. Unless specified, all items will run for two weeks.