

D. Korta/The California Tech

Spitzer Science Center Scientist Michael Warner discusses how the Spitzer Telescope, formerly SIRTf, is helping astronomers improve their understanding of the cosmos.

Spitzer Telescope Reveals Planetary Formation, Space Life Possibilities

By JON MALMAUD

Space. The final frontier. Actually, deep ocean will probably be the final frontier. The Spitzer deep-space infrared telescope does, however, paint an intriguing picture of the penultimate frontier. Michael Warner, a project scientist working at the Spitzer Science Center, gave a lecture Wednesday evening on how the heat-seeking telescope is helping astronomers shed some light on cosmic mysteries.

Spitzer is one of one of the formerly four major NASA telescopes scouting the depths of our extraterrestrial domains, the others being Hubble, Chandra, and Compton. Two of those are

or will soon be no longer operational. When all four were operational, NASA will be able to scan the heavens in almost the entire electromagnetic spectrum. The visible wavelengths turn out to be of only marginal usefulness due to cosmic dust.

Infrared is useful for studying stars and other bright objects, as hot objects can be very easily distinguished from dust clouds. To demonstrate, a scientist covered herself in an opaque plastic bag. When she was viewed through an infrared camera, her form and features were clearly revealed even under the bag as her body radiated waves of heat. She then held a panel of fully transparent glass over her face. This time, she

was completely invisible to infrared since glass is insulating.

Observations from Spitzer have already suggested or given additional evidence to various theories regarding galaxy and planet formation. In light of the heat of far-away stars, it now seems certain that suns form when dust, much of it from asteroid collisions, coalesces into the giant fusion reactors. The true extent of the spiral geometry in the Whirlpool Galaxy is also only seen in infrared.

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Discussion Paves Way For New Constitution

By DAVID CHEN

The future of Avery, a highly controversial subject, was discussed last Sunday in Avery's dining hall. Around 60 undergraduates, at least one graduate student, and a few faculty members were present for the lengthy meeting. "I hope we get a better idea of what everyone wants Avery House to be because there's a lot of controversy," said Avery's Secretary Qing Liu.

The participants were initially asked to discuss their thoughts regarding Avery's strengths, weaknesses, and opportunities. Jerry Houser, Director of the Career Development Center, served as the moderator. "I have no agenda," he said, also noting that he had moderated before for various groups and clubs, and for previous Avery discussions.

The participants had five minutes to brainstorm their thoughts, and then they shared their thoughts with others at their tables. Each table had about five participants, who consolidated their points onto a poster paper to paste at the front of the room.

The posters from the tables were then discussed among the entire audience. The strengths that most people agreed on are the diversity of Avery, including the mix of undergraduates, graduate students, and faculty. Some also liked the clean and quiet atmosphere, in combination with the better food served in Avery. Most notably, however, many participants cited the flexible nature of Avery, since the lack of traditions creates less pressure.

Some weaknesses that they not-

ed are the less communal dinners and less coherent community. In addition, some of the items cited as positives were also considered undesirable items, such as the sterile social environment and higher cost to live in Avery. In addition, Avery is isolated geographically from the rest of the houses and isolated internally, since Avery lacks one central lounge for all residents.

The obvious opportunity that Avery will have this fall is the entrance of freshman. Many believe that Avery's community will develop more steadily with freshman. Interim Vice-Chancellor Chris Wetzel said, "Avery's going through a transitional phase. There would be a positive growth in the community. In the past two years the Avery community has tried to come together. More people want to stay here now." In addition, Avery residents want to increase the interaction between undergraduates and graduate students.

Wetzel explained that he stayed in Avery because he had a low room-pick in his own house, and he liked Avery. He also said, "Avery wants to be inclusive, to be as accommodating as possible. We don't want to force people to do things, but we want people to meet each other. It's a tough balance." Former Chancellor Ryan Witt also agreed that achieving the right balance for Avery is crucial.

Avery's inclusion of freshman represents an opportunity for the residents to establish new traditions. Chris said, "To lay it all

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News Director Steps Down After Issue 49

By KEVIN BARTZ

I broke into the usual giddy-faced sales pitch. "And you get three free units, and \$30 an article, and if you're really good, you can go on to become an editor and be famous!"

The prefrush in front of me broke into a dry smile. Little did I know, he would be the one of the hapless few who would buy my pitch-hook, line and sinker.

There's a reason besides his shaved head that we call Matt Walker '06 "The Rock"; he's the single most dependable reporter and editor I know. When I needed a same-day article on Stephen Wolfram's talk, Matt delivered. When I needed someone to fill in thick-over-thin lines between articles, Matt delivered. And in fall 2003, when I needed someone to take over a Tech I no longer had time to maintain, Matt delivered.

Nearly three years to the day since I pitched the Tech to a prefrush in Ruddock, Matt Walker leaves behind a storied legacy--

one of headlines, bylines and service on the front lines to a Tech that, over Matt's 49 issues, has come into its own. It's a legacy for which we as students, beneficiaries of Matt's selfless work, owe him a tremendous debt of thanks.

Over Prefrosh Weekend, Matt was paired with Abe Fetterman '05, a rabble-rouser I brought aboard in spring 2002 to energize a then-listless Tech. "My ideal host would be named Abe Fetterman," Matt had written on his questionnaire. Little did Matt know what he was getting himself into!

True to Abe's tradition, Matt's first few articles struck up a controversy. In his Nov. 4, 2003 "Homelessness: No Joking Matter," Matt criticized Dabney for making light of homelessness by dressing as hobos at a Ruddock dinner. Needless to say, that angered the seven-house titans. Then-Ruddock President Rob-

A Tribute to the Longest-Serving Managing Tech Editor: Tammy Ma

By KEVIN BARTZ

BoD photos. Ted Jou bunny ears. The good fight over the ASCIT minutes. Recruiting her boyfriend to do the mints. Heading up a last-minute scramble to report on the Vectors cancellation. Quietly holding down the fort as she took social flak for a Tech in

transition.

If you have any idea what I'm talking about, you're probably Tammy Ma.

But such was the nature of her job: no one knew what happened behind the scenes. No one said "thank you" as Tammy worked quietly, worked devotedly, fixing every grammatical mistake, every

error in every caption, every mint in every paper, as she for three years put the good of the Tech over her social and academic obligations.

I could fill a 12-page issue with reasons to like Tammy. Tammy came in with a wealth of experience, two years under her belt editing her community teen newspaper. There, the editor was head honcho, in charge of both editorial and business staffs. At the Tech, Tammy's broad expertise was the glue that held the Tech together.

I was amazed at Tammy's versatility. When a spare article needed writing, Tammy picked it up at a moment's notice, above and beyond the necessary word count. When a spare photo needed taking, Tammy strapped up her camera and took it. When I was too lazy to do pay splits, Tammy logged in and did it so the writers would get their checks on time.

Tammy collected and laid out the mints every week, something I know must've bored someone with her writing talent. Tammy laid out the comics and single-handedly put together the tedious Rotation issues, writing the unwritten articles, placing the unplaced lines and arranging the

Continued on Page 7, Column 1



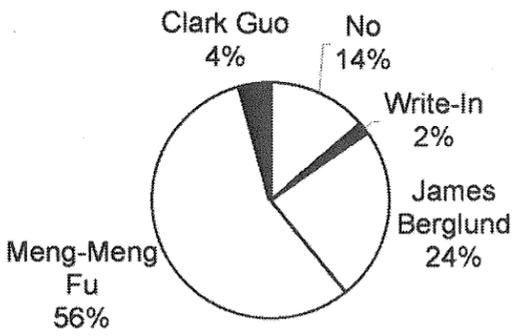
L. Tran/The California Tech

Members of the Tech staff pose after their ultimate Friday lunch meeting with outgoing editors Tammy Ma and Matt Walker.

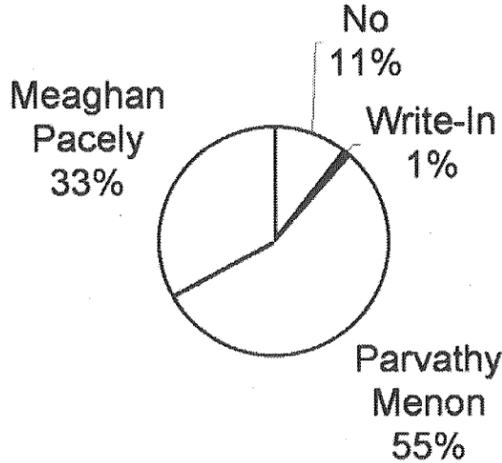
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2005 Election Results

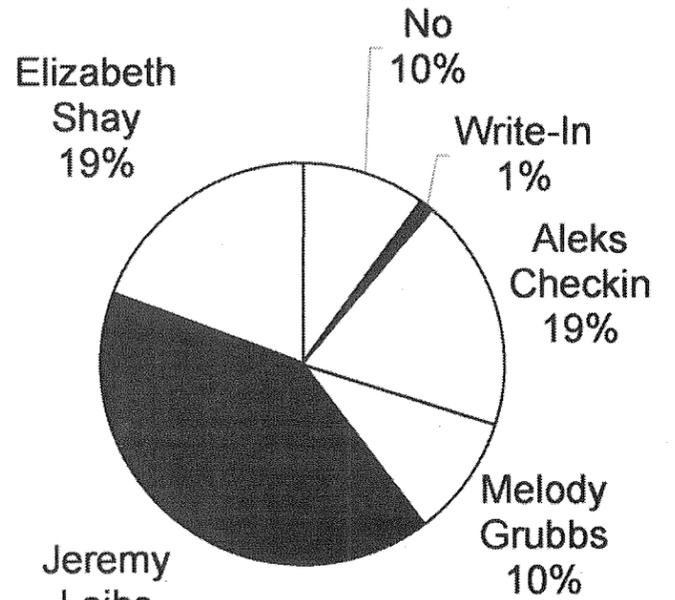
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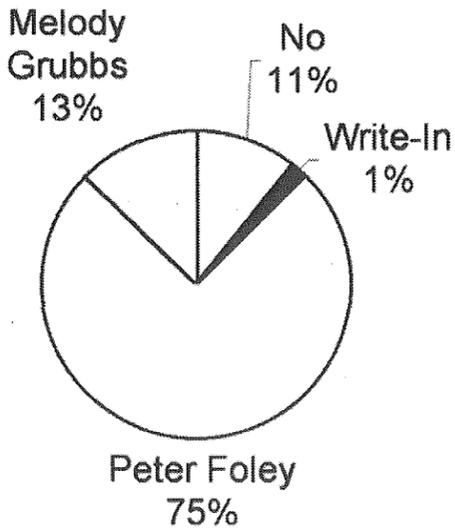
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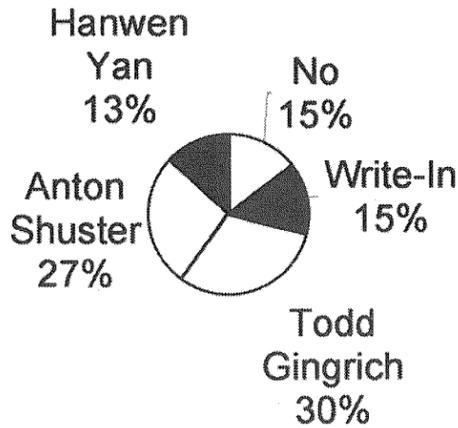
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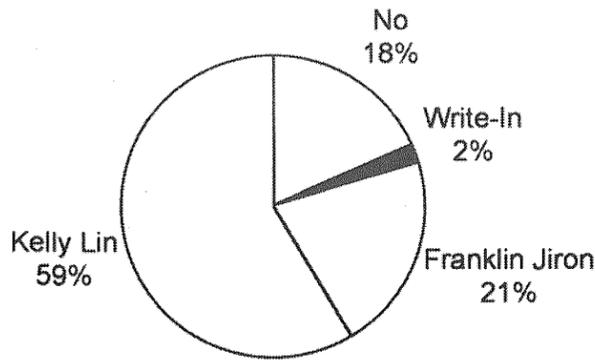
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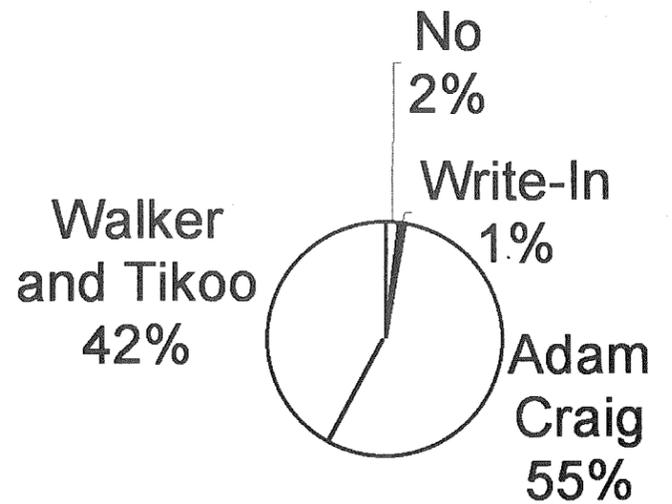
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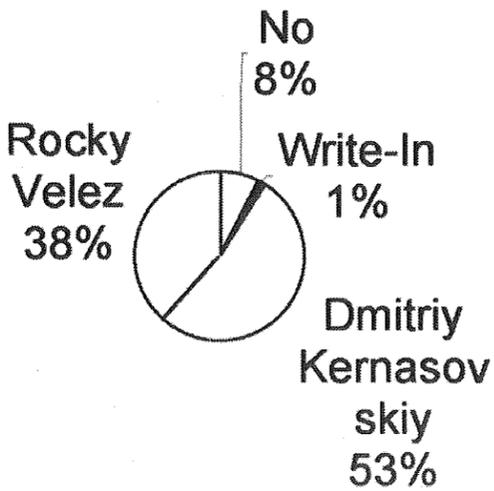
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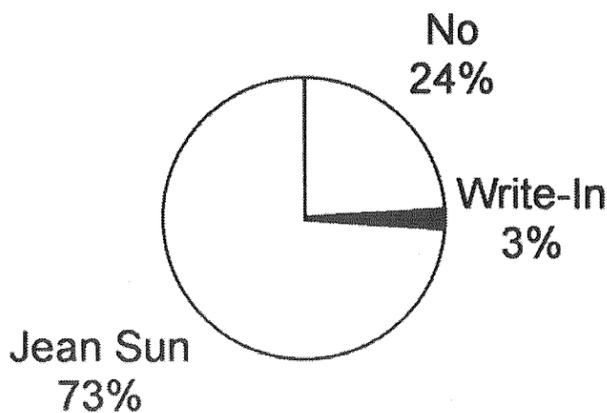
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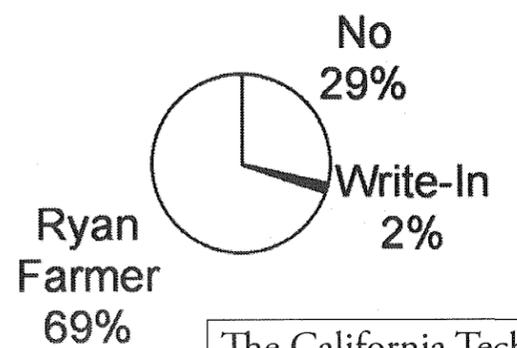
Social Director



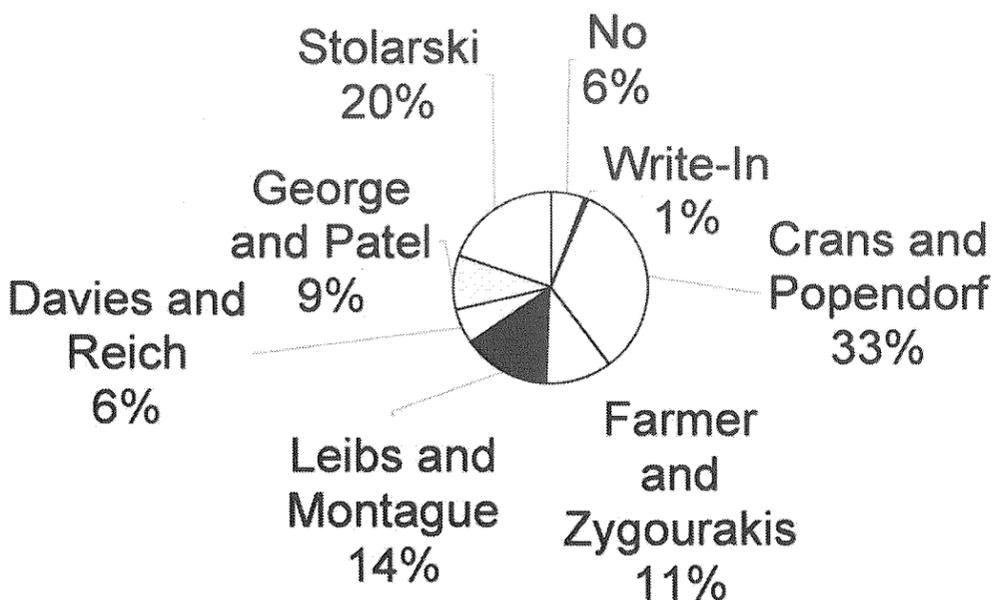
BoC Secretary



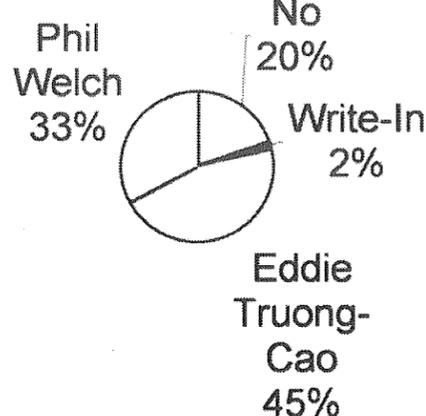
UDAL



Senior Class Co-Presidents, First Round



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VOLUME CVI, NUMBER 20

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

Letters and submissions are welcome; e-mail submissions to tech@tech.caltech.edu as plain-text attachments, including the author's name, by Friday of the week before publication. Sorry the Tech does not accept anonymous contributions. The editors reserve the right to edit and abridge all submissions for any reason. All written work remains property of its author.

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Fencing's Harvard Qualifies for Nationals, Zortman Breaks Javelin Record, Water Polo Has Tough Losses

By MIKE RUPP

Caltech Baseball: Team Hosts Alumni Game

The Caltech Baseball team hosted its 2005 Alumni Game this past Saturday, with many former Beavers returning to give their best efforts against this year's team.

After giving up two runs in the first, freshman starting pitcher Shawn Surdyk settled down, shutting out the Alumni in his next four innings.

An RBI-triple by senior short-stop Jason Quimby tied the game in the third inning. He was immediately followed by senior first baseman Isaac Gremmer, who doubled him in. Caltech would score three runs in the inning.

In the bottom of the eighth, Caltech pounded in another five runs, most notably with a bases loaded two RBI single by junior catcher Tim Boyd.

The alumni had their last chance in the top of the ninth, putting two men on base with two outs. But junior centerfielder Dan Soudek made an incredible catch to end the game. Final score: Caltech 9, Alumni 2.

Gremmer was the top player for the Beavers with three RBIs and pitching four shut-out innings of relief. Gremmer, who has won the Caltech Baseball Alumni Trophy in each of his three previous seasons, currently leads the team in RBIs with seven in five games. Quimby leads the team with nine hits.

The team plays its next game Friday, March 25th at UC Santa Cruz. They will play their final home game of the season April 2nd at Pasadena High School, a double-header against Dodger-town West. The first game will be at 11:00 AM.

Women's Basketball: Year in Review

The Caltech Women's Basketball team improved by leaps and bounds this past season, boosted by the best recruiting class in the program's history.

In comparison to last year, team scoring shot up an astronomical 128%. Team shooting rose from



Senior Isaac Gremmer (P/1b) (left) has led Caltech both at the plate and on the mound. Senior Jason Quimby (SS) leads the team in hitting.

15% to 25%. Team assists more than tripled to 161. Total steals increased 60%. The team's total blocks shot upward from 11 in 2003-2004 to 71. That improvement helped lead to opposing field goal percentages falling from 46% to 41%.

The team set several season records for points scored, most field goals made, most three-pointers made, total rebounds, total assists and total blocks.

With a talented core of now-seasoned freshman and more recruits on the way, the future of the Women's Basketball program at Caltech is extremely promising.

Student-Athlete Spotlight: Women's Swimming/Water Polo - Shannon Lewis



Senior swimmer/water polo player Shannon Lewis is the subject of this week's Student-Athlete Spotlight.

Shannon Lewis, a Senior from Washington, DC has been a key member of the Women's Swimming team all four of her years at Caltech. She was selected as co-captain this season, finally receiving official recognition for her role as team leader and organizer.

Coach Clinton Dodd says "She has been the most conscientious, responsible person on the team for the last four years. She has always exceeded expectations as our distance specialist."

Women's Water Polo Coach Calla Allison agrees and is grateful to have Shannon's help in

building a young program. "A player like Shannon is a joy to any coach. You know that once she commits to something, she will dedicate herself to improving and motivating others."

"[Athletics] forces you to be committed, and to get your work done on time," says Lewis.

Lewis says it helps her to have the commitment and support of her teammates. "To know everyone who's there wants to be there—everyone's sacrificing something. Everybody's working hard to be at practice and at the meets."

A Chemical Engineering major with an emphasis on Materials, Lewis plans on attending Grad school after graduating from Caltech this June.

Track & Field: Zortman breaks Javelin record; team competes at Trinity University

While most of her teammates traveled to San Antonio, Texas for the Trinity University Invitation, Senior Kristen Zortman competed at the CSU Northridge All-Comers in her signature event, women's javelin.

Once again, Zortman broke her own school record, with a mark of 36.5 meters, or 119 feet, 9 inches.

Just one week earlier, Zortman had set a new record with a throw of 117 feet, 8 inches. Should Zortman post a mark of 38.9 meters, or 127 feet, 7 inches, she will provisionally qualify for the Division III NCAA Championships.

Meanwhile at Trinity University, several Caltech Track and Fielders set personal records in their events. Among the highlights, Senior Helen Tai posted a 4.55 meters in the Women's Long jump. Freshman Rene Davis had personal bests of 36.02 meters in the Discus and 27.00 meters in the Javelin. Junior Dmitriy Kernasovskiy set career marks in the 400 Meter Dash (55.83) and the Long Jump (5.16 meters).

The team competes next at the SCIAC Multi-Duals this Friday and Saturday.

Fencing: Harvard qualifies for National Championships at NCAA Western Regionals

For the second straight year, Sophomore Fencer Katherine Harvard will represent Caltech at the NCAA Championships. At the NCAA Western Regionals hosted by Stanford University, Harvard was 11-1 in her bouts, finishing the year ranked 2nd in the Western Region.

As a unit, Harvard, Sophomore Emma Schmidgall and Sophomore

Klimka Szwaykowska went 3-1 in Women's Epee, defeating teams from USAF, CSU Fullerton and Stanford. Their only loss came at the hands of UC San Diego.

Junior Vanessa Heckman of Women's Sabre qualified as a "wild card" alternate for Nationals after going 5-7 at Regionals. Senior Haomiao Huang of Men's Sabre also went 5-7, finishing 9th in the region.

This marks the final meet for most of the team. As for Harvard, she will travel to Rice University in Houston Texas for the 2005 NCAA Championships, March 17-20.

Congratulations to the whole program on another outstanding season!



Senior Kristen Zortman set a new school record in women's javelin. She is currently working on qualifying for the Div III NCAA Divisionals.

Women's Water Polo at CSU East Bay Invitational

The Women's Water Polo team headed north this past weekend for a match at UC Santa Cruz followed by a four-match tournament at the CSU East Bay Invitational. The team lost to UCSC, 4-11. This was followed by losses to CSU East Bay (3-15), CSU Monterey Bay (2-11), and two losses to Sonoma State (0-9 and 3-11 respectively).

Sophomore Preetha Sinha led the team in scoring on the trip with four goals. Senior Beth Dorman and junior Bekah Eason finished with three each. Senior goalkeeper Delia Davies had 26 saves.

The team plays next March 19th-20th at the Claremont Mudd-Scripps Invitational. Its next home match is the Caltech Invitational, March 22nd at the Caltech Classic, where the team will host programs from all around the country.

Men's Basketball: Year in Review

This year, the Men's Basketball team observed numerous improvements over the previous season.

Team scoring increased 43%, as junior Jordan Carlson and freshman Bryan Hires lead the team in scoring. Team field goal percentage improved just as dramatically, from 25% in 2003-2004 to 36% this season. Team defense improved significantly as well—opponents' scoring dropped 17% this year, and opponents' field-goal percentage fell as well, from 55% in 2003-2004 to 46% this past season. Part of the defensive improvement was no doubt due to improved defense inside. The team's shot-blocking more than quadrupled this year, to 2.4 blocks per game.

With a good mix of seasoned veterans and talented newcomers, the future of the program is bright.



Katherine Harvard wraps up her amazing season with her second visit to Nationals.

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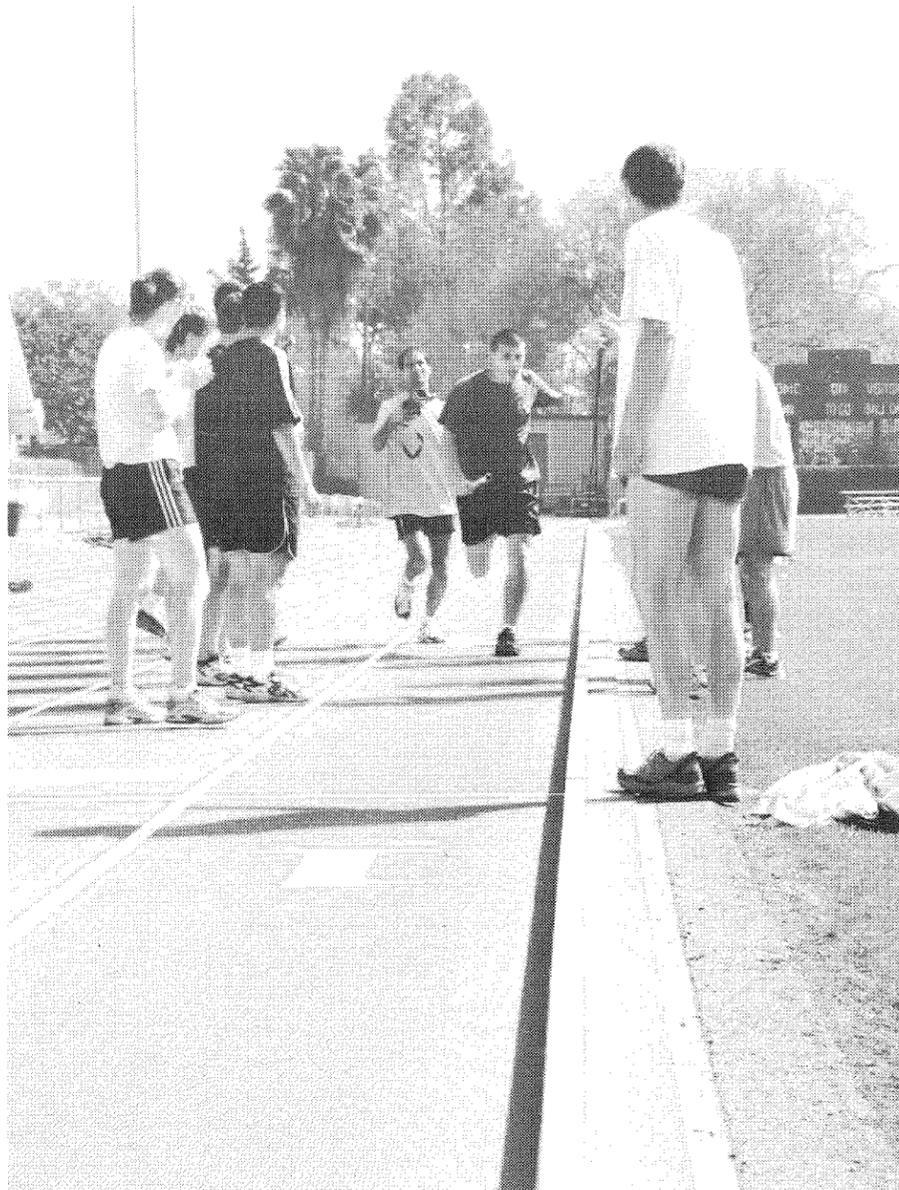
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Caltech Marathoners Go Head to Head Against LA's Finest



courtesy of N. Pierce

Marathoner and Tech Editor Matthew Walker brings the baton home for the Caltech team.

On Sunday morning, the 2nd Caltech Marathon Relay was held on the Caltech track -- head to head against the LA Marathon elite field with a live television feed from the race course. 17 Caltech undergrads, grads, staff, faculty and alumni ran as a team, running splits of 400 m.

On average, team members ran seven legs of the relay at a pace of 69 secs per lap (two team members aggravated injuries early in the race and were unable to continue).

The team turned in a time of 2:01:20 for the marathon, compared to the LA winner's 2:09:35 and the world record 2:04:55. Last year with a team of 38 Techers, we weren't sure if we'd be able to keep pace with the elite marathoners, but we ended up breaking two hours.

This year was a lot tougher...some worried looks in the middle of the race as we started to get tired...but a great day.

You can check out more photos of the event at: <http://homepage.mac.com/gillianpierce/Caltech/PhotoAlbum7.html>



courtesy of N. Pierce

The second Caltech Relay Team poses for a picture after their 2:01:20 finish. Each member of the 17 person team ran seven legs of 400 m each.

Building on the Constructive Criticism: The Final Article

By HAMILTONY FALK

I've now been writing for the *Tech* for about 14 months, and I regret that my contribution to what has been a fine newspaper is about to come to an end. The incoming editor and I do not share the same opinions about the *Tech*, so I'll be resigning as a columnist, at least for the time being. If you're really desperate for more articles, feel free to e-mail HamilTony@gmail.com. If for some reason I actually get a few e-mails, I might write some articles and send them to the folks who've asked. Or I might not, I'm a lazy person.

I'd like to let everyone know that due to some "constructive criticism" in a poster put up by Adam Craig during his campaign to take over the *Tech*, I'll be making some changes to my writing style. If you'd like to read what he wrote about me, I've included it below. First of all, I promise that I won't use any more parenthetical comments (and I'll stop blatantly lying) or using footnotes¹.

Those were the two main problems with my writing personally (I can't believe it took me so long to realize that my parenthetical comments were breaking up the flow of my words, making my paragraphs awkward) but I think I can also learn from the advice given to others. I think I will avoid qualifiers, which are somewhat useless, because of course things either are or are not whatever adjective I choose to describe them, modifying an adjective is just comically ridiculous. I think I should also make sure that I don't use anything derived from the term "surprised" without explaining why exactly I found these things surprising (I supposed I'd better just assume anyone who reads my articles are too dumb to figure these things out on their own).² I'll avoid using any sort of technical jargon, especially if I mention research. Instead of typing "laser" for example, I'll explain what the acronym means: Large Alien Super Exploding R-zapping thing. I

promise that I will no longer use rhetorical questions, since we all know they're useless anyway, right? If I should decide to ask my readers a question, I will leave some space after it for them to answer, like this. Do you think rhetorical questions contribute to the persuasiveness or eloquence of an editorial?

I'll also avoid metaphors, since they are like a deadly flower, beautiful to see, but full of bees. I promise not to have "undesirable breaches of un-improper prose style." I also promise to figure out what exactly that means. I will never dare mention the name of another newspaper, not even the *New York Times*, *The Wall Street Journal* or even *The Toronto Sun*.³ Using references like this, as well as the other things I'm correcting, no longer meet with my standards for clarity, conciseness, fluidity or vividness.

Here is the section of Adam Craig's propaganda referring to me:

"In 'The Art of Becoming A Man: [etc],' Hamiltony Falk makes five parenthetical comments and three comments set apart from the rest of the text as footnotes. If they are relevant enough to appear in the article at all, then they are relevant enough to incorporate into the body of the paragraphs in which they appear. Otherwise, the other [We can assume he meant author here. This man is editing the *Tech* now. Oops, I forgot I'm not allowed to write parenthetical comments.] should be excluded them completely. Parenthetical snippets and tangents break up the flow of the words, making the paragraph sound awkward."

(1) Unless I feel like it.

(2) Oops, there I go breaking up the flow of my paragraphs again. I promise that in the future I will strive to do better.

(3) Which is not only a newspaper that is not the *Tech*, but is Canadian as well.

Letter to the Editor: Complaints Over Tech Food an Old Tradition

Dear Editor,

I guess the one constant in student life is complaining about the state of the food service ("When It Comes to Being on Board...", by Hamilton Falk). If we step back a decade and a half, we can see where things used to be. Other than the ratio (7:1 at the time), food was at the top of the complaint list. Back then there wasn't a "Caltech Dining Service". The board contract was in fact by competitive bid, and indeed in some years that bid went to local restaurants.

What did we get? Well, the cost was about the same or more, inflation-adjusted. There was no convenience store, no Broad Cafe, no Avery Cafe, no debit cards, and no ability for students on board to eat at Chandler. The Red Door was pretty much a closet next to the Y that sold coffee. Lunch and dinner were served in your house dining room, during the dining hours only, and if you didn't like the entree of the evening the one choice was "dining with the Captain (Crunch)".

The only way off board was to move off-campus (which admittedly there was a lot more of). Back then there was no Old Town (this was a bedroom community, and the streets were practically empty at night), and restaurant dining was pretty much limited to the Denny's mentioned in the article. It wouldn't surprise me if CDS operates at a loss - for years everyone clamored for CIT to please create its own food service like other schools had, and we were told it would never be cost effective. My biggest complaint with Caltech's food service - why did I have to eat such putrid crap for four years when I was a student??

- Jason Surace
Ricketts '92

Emerging Artist Ben-Ari Uses Violin to Shake Up Hip-Hop

By THOMAS TSAI

For music usually heard in chandelier-strung concert halls featuring venues of Joshua Bell and Itzhak Perlman, the melodious sounds of violin usually do not come to mind when it comes to the head-nodding, bass-thumping sounds of hip-hop. However, Miri Ben-Ari is attempting to change it all. Armed with a bow and a rosin, Ben-Ari is primed to make her mark in the musical world.

At first glance, it is hardly believable that the small, Isreali-born 26 year-old tears it up with the likes of heavy hitters like Alicia Keys, Twista, and Kanye West, but Miri has got the flow and the soul, especially when it comes to music. Like the rappers that she works with, Miri spits out her verses, except with the violin. Most recently, she was credited with a Grammy for her contributions in Kanye's mega-hit single "Jesus Walks" and will be rolling out with a new album, *The Hip-Hop Violinist*, later this year under the Universal record label.

Originally a classical violinist with aspirations of composing Jazz, Miri Ben-Ari immigrated to the United States at the age of 16 to enroll in the Mannes School of Music in New York City. In America, however, she was quickly drawn to the hypnotizing beats of late rappers Tupac Shakur

and Notorious "Biggie Smalls" B.I.G. Drawing from rap and hip-hop's roots in jazz, the fresh-faced musician began experimentation on what she could do with her violin to simulate the heavy bass and funk of these hip-hop beats. As a result, Miri Ben-Ari quickly captured the rapt attention of some of the biggest names in the music world. She was not only spotted by ageless producer Wyclef Jean, but also endorsed by Jay-Z and his Roc-A-Fella camp and sooner than she could say "violin," Miri was wowing audiences at the Apollo Theater and BET's hits countdown show *106 and Park*.

Just as talented in production as she is in performing on her stringed instrument, Miri has arranged and written instrumentals for the likes of Mariah Carey, Seal, and Britney Spears, not to mention her main collaborator Kanye West, making her just about the only person in the world able to mellifluously pair a major arpeggio with an 808 Roland Drum Synthesizer. She produced all of the stringed instrumentals on Kanye West's multi-platinum rookie CD *The College Dropout* and lent her talents in many West-produced hit singles for Twista, Brandy, and Janet Jackson. For this, Ben-Ari has found a unique niche in the multi-million dollar business of hip-hop music.



courtesy of www.smithbody.com

Miri Ben-Ari, a talented 26 year-old violinist and composer, has already collaborated with Kanye West, Alicia Keys and Twista, and written instrumentals for Mariah Carey, Seal and Britney Spears.

Ben-Ari's rising success has been largely influenced by hip-hop's integration into the mainstream. With hip-hop and R&B dominating seven of 10 songs currently in the Billboard Top 10, record producers have continually looked to incorporate new, more worldly, elements into hip-hop in order to draw a larger listener base. For that, Miri's sound is sure to become a mainstay.

Her upcoming album's first single, "Sunshine to the Rain," features R&B crooner Anthony Hamilton and rapper Scarface in an smooth, easygoing beat, contrasting an industry dominated by the hard, gangsta style of 50 Cent and company. Even the music video espouses hip-hop in different light, depicting it as a unifying force. Miri stands out on a street corner, performing with her beloved instrument, and gravitating the urban masses to her makeshift stage. The attitude is positive and energetic, and the album is sure to bring out even more, especially with hot production and rhymes from hip-hop's current renaissance man Kanye and other contributions from Mya,

Fabulous, Lil' Mo, Joe Budden, Pharoh Monch, and more.

As a music enthusiast and violinist myself, I was instantly attracted to Ben-Ari's music. Originally, I had seen her in a televised Ecko fashion show two years ago as a largely unknown freelance musician, but she definitely capture my attention, and from that point on, I stuck my head out for any news of the "hip-hop violinist." Although she is sure to draw detracting purists that say that the violin should not be used in such a manner, I can only applaud her for taking such bold and yet amazing steps to help refresh a genre often denounced for a lack of musicality and an excess of gawdy jewelry, misogyny, and violence. Having listened to some of her work, I will vouch that Miri Ben-Ari is an innovator, not only for the field of hip-hop, but for music in general. I salute Miri's efforts to bring out the protean musical capabilities of the violin. After all, as in her own words, "...from Bach to Tupac, it's all music."

Making a Difference, One Day at a Time, with the Caltech Y

By SIDHARTH JAGGI

The Caltech Y is proud to announce its annual Make A Difference Day, Saturday, April 2nd. Students, faculty, staff, alumni and community members will fan out to volunteer with at up to 20 different community-based projects on teams led by students. Project areas include light construction and painting, environmental and outdoor focused work, visiting elderly and disabled peoples' facilities, reading and tutoring children, and sorting donated items. As always, the Y will organize meals (all three - breakfast at the Y, lunch at the site and a BBQ back at Caltech with volunteers from all the projects after the event) and transportation for all volunteers. For those of you who get out of campus rarely, or have always wanted to volunteer but had little opportunity to because of the time-commitment required to set it up, this is a perfect opportunity to explore the possibilities with local organizations. Have time constraints on Saturday? Different projects are available at different times.

First held in 2001, the event has been growing larger every year, from under a 100 volunteers in 2001, to 200 last year. Previous project leaders have positive things to say about their experience. Undergraduate Jonathan So led a team to Mark Keppel

High School in Alhambra to tutor students for the upcoming SAT. He notes "For many of the kids, they would be the first in their family to attend college and break out of that cycle of poverty. All it really takes is for someone to help them along and tell them they can do it." Ex-Navy graduate student Patricia Neil, who led a trip to the Vet's Garden to work on a micro-garden project says it was "fun to make an impact on a project that helps so many veterans... those who come just to sit in the garden to those who work there to help earn money or a new skill". And community organizations too have glowing words for Tech volunteers. David Gooler, former president of the local chapter of Rebuilding Together says "Of all the volunteers that we get, Caltech students put in the most effort and enjoy it."

Check out the Caltech Y website at <http://caltechy.org> for more details or sign up information. If you have questions, contact Greg Fletcher, gregf@its.caltech.edu, (staff, Caltech Y) or Esther Lee, esther@its.caltech.edu, (student ExComm President, Caltech Y).

The event is co-sponsored by the Tournament of Roses Foundation, GSC, Student Affairs and the Crawford Fund.



courtesy of S. Jaggi

Volunteers on last year's Make a Difference Day take a break from their digging for a smile and a picture.

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The Beckman Political Internship will be available again this summer. The internship, supported by friends of Arnold O. Beckman, will pay a stipend of \$5,000. It allows a selected intern to spend the summer working in the office of a politician or a government agency and to see from the inside the process of government. The applicant is expected to make arrangements with the appropriate political persons or organizations. The internship is open to any Caltech undergraduate who intends to be a student next year.

If interested, submit a proposal describing where and how you would use the stipend along with one faculty recommendation, to the Deans' Office, 210-87, or email machang@caltech.edu, by MONDAY, MARCH 28, 2005

Please join FICCIT in an Evening Exploring Iranian Culture. **Nowruz (Iranian New Year) Education and Celebration**

Date: Sunday, March 27, 2005
Time: 6pm-midnight
Location: Dabney Hall on Caltech Campus

The celebration will include: traditional Persian dancers, a traditional dinner, traditional Persian music, informative posters describing different regions of Iran, and a late-night DJ for dancing.

In the minds of Iranians, the word Nowruz invokes colorful images which are sumptuous, elegant, and opulent as well as delightfully simple, refreshing, and cordial. Please join us in celebrating the new year and the beginning of spring. Reserve your seat today! For more information and reservation form visit <http://ficcit.caltech.edu/nowruz/>

The Irish band, Téada, will appear at Caltech on Saturday, March 19 at 8:00 PM.

Keep the celebration of Saint Patrick's Day alive for a couple more days with this fine group of young men from Ireland who were named Best Traditional Newcomers 2003 by Irish Music Magazine.

Pronounced "Tay-da," this all-acoustic band is a joy to watch and hear, mixing a few tender ballads with driving jigs, reels, and hornpipes. They feature the uniquely sweet fiddle playing of Sligo musician, Oisín Mac Diarmada, in tandem with the rhythmic subtlety of Monaghan banjo/bouzouki player, Sean McElwain. Their uniquely crafted tune settings are beautifully enhanced by two of Ireland's finest accompanists. Tristan Rosenstock from Dublin, on bodhrán, brings to the performance an unmistakable rhythmic vitality, superbly aided by Sligo's Damien Stenson on flute and whistle. They have also added Paul Finn from Laois on button accordion. Their second album, "Give us a Penny and Let Us Be Gone" came out last year.

The performance will be in Dabney Lounge on the Caltech campus in Pasadena. Dabney Hall is located in the center of the campus east of the intersection of Wilson Avenue and San Pasqual Street. Parking is available in the Beckman Auditorium parking lots, at the south end of Michigan Avenue, just south of Del Mar Boulevard.

Tickets are \$15 for adults and \$5 for Caltech students and children under 12. They will be available in advance and at the door. Tickets and additional information may be obtained from the Caltech Ticket Office at (626) 395-4652, or toll free at 1-888-2CALTECH (1-888-222-5832). Or check the Folk Music Society web site at <http://www.folkmusic.caltech.edu>

Upcoming Caltech Ballroom Dance Club Events:

Class: 8 weeks of professionally

taught bolero

Instructor: Andre Fortin
When: 8 Mondays, 7:30-9pm,
March 28 - May 23 (no class May 9)

Where: Winnett Lounge
Cost: \$40/8 week series or \$6/
class for Caltech students; \$56/series or
\$8/class for nonstudents
No partner or dance experience required

Caltech Ballroom Semiformal
When: Sat. April 16th, general
dancing starts 9pm

Where: Dabney Lounge on
Caltech campus

What: Ballroom, latin, and swing
dancing; great music and refreshments

Cost: free!
Dress to impress!

Scholarships

The Financial Aid Office has applications and/or information on the following as well as additional undergraduate scholarships. All qualified students are encouraged to apply. Our office is located in the Center for Student Services M/C 110-87. Please see our website for more information: www.finaid.caltech.edu/news.html

The Desk and Derrick Educational Trust Scholarship applications are now available for students seeking degrees in fields related to the petroleum, energy and allied industries. Six \$1,500 scholarships are dedicated for female students; one unrestricted scholarship for \$1,000 will also be available. Applications must be received by April 1, 2005. Please visit their website for application forms: <http://www.addc.org>.

Sallie Mae Fund applications are now available for four different scholarships. These scholarships are available to low income and minority students to increase access to higher education. Please visit their website for requirements, deadlines and application forms: <http://www.salliemaefund.org>.

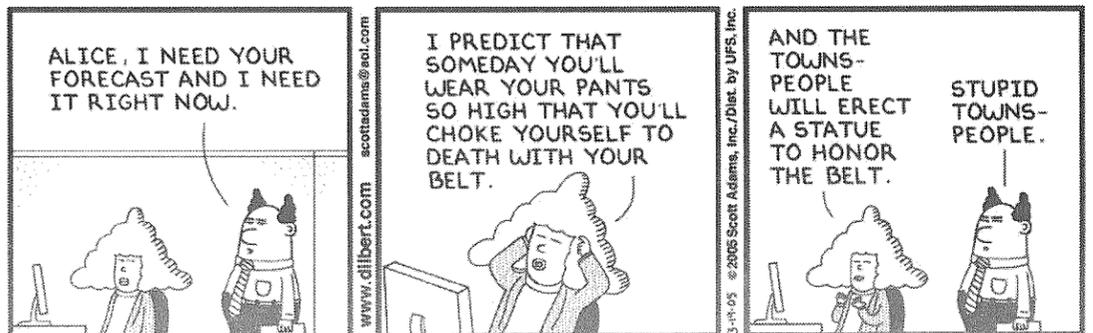
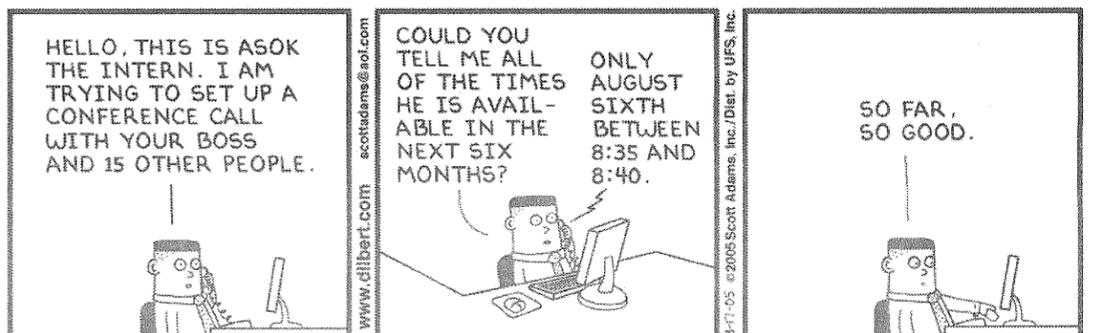
Key Bank's Take 5 Scholarship is now available. There are five \$5000 scholarships available from February to June 2005. Please visit their website for requirements and application forms: <http://www.Key.com/educate>.

USA Funds Access to Education Scholarships are available now to students with demonstrated financial need. USA Funds will award up to \$3 million dollars in renewable scholarships. Scholarships range from \$750 to \$1500 per academic year based on enrollment. Please visit their website for requirements and application forms: www.usafunds.org. The deadline to apply is March 15, 2005.

The 2005 Olive W. Garvey Fellowships are now available. This fellowship, available to both graduate and undergraduate students, is awarded based on the best essay on the topic: "The great aim of the struggle for liberty has been equality before the law." The deadline is May 1, 2005. For further information visit: <http://www.independent.org/students/garvey>

American Public Power Association "APPA" has DEED Student Research Grants and Internships available. Each year up to ten, \$4,000 student research grants and internships are awarded to students conducting research on an energy-related project. Students in energy-related disciplines are eligible. Students must obtain a DEED member sponsor for their student research grant or internship. Applications are accepted January 15 and July 15 each year. For more information visit: <http://www.appanet.org/res>

The Minerals, Metals & Mate-



rials Society "TMS" offers a variety of scholarships. The deadline to apply is May 1, 2005. To preview scholarship eligibility information visit: www.tms.org/Students/Award-Programs/Scholarships.html

The Excellence in 3D Animation Award is a \$1,000 cash gift awarded quarterly by Troy Studios to encourage students to pursue Graphics Ares and Animation. Award winners are chosen based on their entries in a contest. The contest is open to all students of all nations, regardless of field of study. To enter the contest, students should down-

load free software from the www.animoids.com website.

Please visit their website for more detailed information. There are four quarterly deadlines each year (Feb 28, May 31, Aug 31, and Nov 30)

Educaid is offering their "DoubleTake" Sweepstakes. Win two \$2,500 scholarships - One for you and one for your school. Applications are available in the Financial Aid Office, or on Educaid's website: <https://www.educaid.com/doubletake>

If you are a college student, who is interested in becoming a naval officer when you graduate, you could apply for the Baccalaureate Degree Completion Program (BDCCP). This program pays future naval officers a monthly salary while they are still attending college. Qualified technical majors can receive a salary of approximately \$1,500 per month for up to 3 years prior to graduation and qualified non-technical majors can receive this salary for up to 2 years prior to graduation. Additional information is available at: www.navy.com.

98 Issue Run Comes To Conclusion for Ma

Continued from Page 1, Column 5

unarranged dinner schedule.

After months of hand-wringing over our impossible-to-work-with business manager, Tammy helped track down new business chief Vi Tran, ushering in a three-year era of advertising stability.

With the previous business manager gleaning a 20% commission, money was tight at first—but Tammy was resourceful. When the Tech couldn't afford a digital camera, Tammy found a friend willing to loan a good one to the Tech, which finally let us support a staff of photographers. When someone needed a tape recorder, Tammy was more than happy to lend out her own. Graciously, she arranged her editing schedule around mine.

Tammy was also a wizard at filling space. Working mostly on Saturdays, I sometimes left whole pages blank, my only instructions to Tammy "Your article here." But magically, when I sat down Sunday night for finishing touches, everything fit together perfectly.

Tammy provided a steady voice of sanity. Early on, when I tried to dismiss our copy editor, she stopped me. When I made fun of the BoD in a caption, she edited it out. When I put Iram's name in a headline, she fixed it and published the paper without bothering me.

I know Tammy took the heat for controversies I instigated, all the way from publishing Abe Fetterman's attack on Ted Jou's loyalties to penning a hard-hitting headline on Jim Boyk's dismissal. And for putting her through all that, I apologize.

But Tammy was always reasonable and, in times of trouble, loyal. Once in spring 2002, when the IHC put tremendous pressure on her at the last minute to rearrange the whole Tech to make room for a late, poorly written Rotation notice, Tammy stood fast, unquestionably enduring social repercussions. And when Randie Kim tried to recall me the following week, Tammy stood by me. That took guts for someone as respected as Tammy in Fleming social circles.

One hectic Sunday in December 2002, I asked Tammy if she'd consider running for Tech editor again. No, she said, she'd had

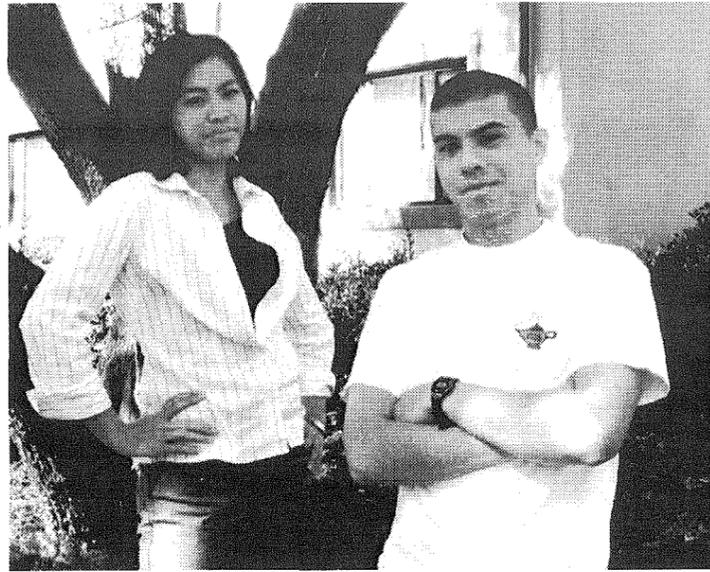
enough. I don't know if she ever noticed, but I had to make a quick getaway because I was nearly in tears. I was stretched thin as it was, and there were still things to accomplish. How could I possibly hold things together without Tammy?

Thankfully, she came to her senses. In the end it was not Tammy but I who quit early, turning the news directorship over to Matt Walker in fall 2003. Now, 98 Mondays later, outgoing managing editor Tammy Ma has woven the longest string of issues in Tech history. She stayed on for three superb volumes that, with the pending change in leadership, can rightfully be called an era.

As I knocked on doors for Matt and Sonia two weeks ago, some sympathetic souls suggested to me that if Matt were to lose last week's election, it would be a sad rejection of all Tammy had done over the past three-and-a-half years.

I don't think so. The notion that the Tech would even be considered worthy of taking over by election stands as a testament to just how far the Tech has come, thanks in large part to Tammy's steadfast effort.

I'll always remember Sundays with Tammy in SAC 40. But more than anything else, I'll remember all she gave the Tech. Thanks, Tammy.



Outgoing editors Tammy Ma and Matt Walker end their term with their 98th and 49th issues, respectively, this week.

Three Year Tech Career Comes To End For Veteran Reporter Walker

Continued from Page 1, Column 2

ert Kern '03 wanted to sit down with Matt for a "friendly chat." I begged him not to; I was sure I'd lose one of my most promising freshman writers.

I was silly to worry. Whereas Abe lilted in the face of controversy, Matt kept writing, racking up a tally of stories that ran the gamut from Rotation to faculty diversity, from TURLI to SIRTF. He even poked fun at himself a couple weeks later, writing a piece mocking Ruddock for dressing up as rich people at a Dabney dinner. And perhaps most surprising: even after that freshman-year slight, Matt went on to become first vice president and, last month, president of Ruddock House.

Matt's writing and reporting wasn't clean from the start; he came in with no news experience. But editing the paper from week to week, I saw Matt's writing develop. His later landmark stories—on, coincidentally, Ricketts' "homeless" protest in May 2003 and on an affirmative action mock trial in June—had concise leads and fit the classic journalistic inverse pyramid. His commencement piece, a review of 2003 at Caltech, was a beautiful chronology of the year's events.

And now, the biggest criticism of Matt's writing that his opponent could dream up was that he

used too many synonyms for the word "surprise." That's actually a compliment, if you ask me.

Matt was unique in that he always had feet in both news and commentary. While he became best known for his news work, Matt's commentary was keen and insightful. In a Jan. 27 piece, Matt viewed erroneous exit polls as a blessing—as a useful indicator of voting irregularities. Interesting, I thought. I'd never considered that.

In news, it was his Master Plan series that put Matt on the map. In three detailed parts, Matt outlined Caltech's Master Plan for campus development. It was rare for then-CABS Director Tom Mannion to comment on the Tech, but that week he complimented me on Matt's comprehensive, rigorously accurate piece. Enough to make an editor's heart throb, Matt's reporting was rife with quotes, enough to fill the top of a page with quote box-offs.

Adding it all up when I sought out a successor in summer 2003, the choice was clear. Only Matt Walker had the journalistic versatility, motivational knack and sheer dedication to be news director.

As an editor, Matt has made

his mark in management. Besides putting out a clean, solid Tech every week, Matt has assembled a crew of reporting talent unmatched in both quantity and ability, so much that had Matt won, he had the additional staff to support four new pages and three new sections. Wow.

Make no mistake: Matt Walker deserved to win last Monday's election. It's a sad election that forces someone as dedicated as Matt out of a role made for him. But how gracefully Matt has handled the defeat stands says volumes about his character.

Matt may not have been endorsed by Dabney, Ricketts or TheFacebook.com. His supporters may not have posted signs saying his opponent sucks, and no one chanted "Matt Walker" at midnight doughnuts.

But in Matt, we had more than packaging: we had someone quiet, someone determined, someone who really cared about the Tech. Having worked both with and for him, I can vouch for that.

"Our campaign is based on substance, not noise," he wrote. That is the Matt Walker I'll remember: no bells, no whistles, no electioneering. Just 49 issues of good old-fashioned hard work.

Book Features Caltech

The book concerns John Whiteside Parsons, a pioneer in the field of rocketry while at Caltech during the 1930s and 1940s. Parsons was a self-taught amateur at a time when rocketry was roundly ignored by the scientific establishment and travel to the moon was considered little more than the talk of madmen. His main inspiration came from reading the science fiction pulp magazines of the day and he became friends with (and appeared in the stories of) many of the great Golden Age writers of science fiction.

By his early twenties, however, Parsons was a leader of Caltech's "Suicide Squad", a motley band of young scientists whose dangerous rocketry experiments at the Guggenheim Aeronautical Laboratory wreaked havoc on the Caltech campus. Despite much of the scientific establishment being dead-set against him (Caltech's Theodore von Karman being his sole supporter) he eventually came to make his dreams a real-

ity, being responsible for the first manned rocket-powered flight in America, and co-founding the famed Jet Propulsion Laboratory.

Yet away from rocketry his life was also touched by a Pynchonesque confluence of the bizarre. For as well as being one of America's first and foremost rocket scientists, he was also a committed occultist and a devout follower of the English diabolist Aleister Crowley. His mansion on Orange Grove became famed for playing host to black magic rituals and sexual experimentation. When Parsons died, in a mysterious explosion at the age of 37 in 1952, he left behind him a story which speaks of the achievements, and pitfalls, of the unfettered imagination.

The author of *Strange Angel: The Otherworldly Life of Rocket Scientist John Whiteside Parsons* will give a reading at Vroman's bookstore in Pasadena on March 15th at 7pm.

Poet, Physicist Speaks On Women in Science



Dr. France Cordova, Chancellor of UC Riverside, speaks about her experiences as a poet turned scientist.

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Avery Facing Challenges While Preparing for Next Year's Frosh

Continued from Page 1, Column 5

now is a good thing." Ryan noted that a key difference in Avery is that there are already female residents. In contrast, all existing seven houses established their traditions when Caltech had no female undergraduates. Thus, some of the existing traditions can create a culture that may be less pleasant for females.

Ryan also explained Avery's recent events. In particular, he said that last year Avery had successfully ended animosity with the IHC. He praised the house presidents and Kim Pependorf for representing their constituents' opinions, even when their personal opinions differed significantly.

Ryan also explained that over the past year, Avery felt closer to the seven houses when it had to battle with the administration over various issues. For example, Caltech Dining Services wanted to take over Avery's library and force Avery residents to reserve it, a move that Avery residents obviously did not like.

Many of the issues evoked strong emotions from the audience. One argument was that the existing houses have expectations of freshmen, which does create a real pressure. For example, they mentioned the "pass/fail frosh" attitude of the seven houses.

On the other hand, others criticized the social environment that Avery provides at the moment. One member mentioned that Avery's current social activities consist of only food, and most participants merely pick up some to eat back in their own rooms. Another participant, however, said, "I really like what Avery has to offer right now," and stated that while there are some weaknesses, Avery could take freshman in its current state.

At this point, Professor Gary Lorden gave an explanation of how Avery was started. "My vision when I looked for funding was that Avery would be an asset." Professor Lorden began thinking of Avery in 1989 and wanted this to be a community where anyone, including undergraduates, graduate students, and faculty, could drop in. He mentioned the current situation, "There's a sense that Avery was spawned by the administration and not the students. That's a little true but not mostly."

He hopes that Avery won't be thought of as "the anti-house," the nerdy younger sibling compared to the other houses, who treat this young one with a condescending attitude. He noted that "everyone should relax and remember that we're all part of the same Caltech community."

The existing houses can help Avery in this stage, but they should not just point out existing traditions; instead, Avery should have a chance to develop its own community. He also explained that Avery lacked a central lounge, which they had hoped to have when planning Avery, because of the costs. Incidentally, Professor Lorden mentioned that he was in Page House when it became a house, although he jokingly discredited himself from any of Page's traditions.

Professor Catherine Jurca and Master of Student Houses also expressed her own hopes for Avery. She liked the idea of an open Avery that was available for anyone to use, regardless of membership in Avery.

The issue of physical isolation was brought up again. Chris said, "I encourage everyone to think of ways to get around this," although he noted that Avery would have a special opportunity for next year, when the South House residents will be moved next to Avery.

At this point, however, junior James Mao argued against many of the previous points. He likes the social environment as it is now because he is busy and prefers social events just to get food. He also stated that any socializing would force students out of their shells and while some aspects of the houses may be considered hazing, he argued that all freshmen should go through the house system. In addition, James stated his unhappiness with the representatives on Avery's council.

Sophomore Nick Hutzler of Ricketts House stated his appreciation for the benefits of the house environment, "I've never felt forced. I'm very grateful because I was very introverted when I came here. I still get my work done but I have fun too now."

Ricketts' President Arturo Pizano agreed with Nick. In addition, he said that the changes to Avery would not hurt his position, but he worried about some of the students that might be harmed. Students who could benefit socially from strong house traditions, and those on the other extreme who prefer no traditions at all, could be at a disadvantage with the proposed changes to Avery.

One student noted that she knew personally of one girl who felt pushed back in after being turned off from her house experience. This caused her to become less social, so she argued that it might be worth protecting those who don't respond well to pressure.

The audience then voted on the items listed on the posters. There were three colors, the categories

being Avery residents, Avery residents who don't identify with Avery, and non-Avery students. Each participant voted for three items. The Avery stickers tended to cluster on "low pressure", "diversity", and "open to all". Non-Avery voters liked the idea of Avery being a resource for the entire Caltech community.

Not many graduate students were present, but one who was there offered many thoughts. He noted that "not even all the graduate student rooms are filled" since graduate students don't think of Avery often. There are only around 18 graduate students in Avery. However, he expressed concern with the cost of living in Avery, with a higher room and board plan compared to other offerings. He stated that he enjoys his experience in Avery but believes that the cost will force him off.

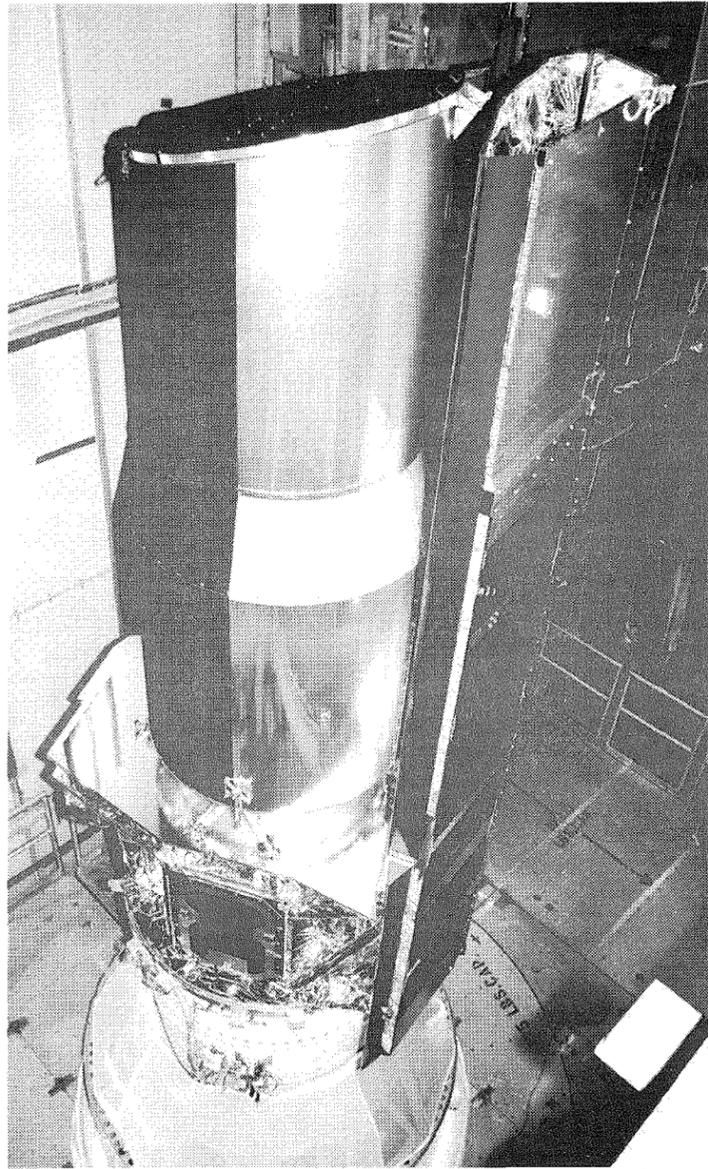
Professor Ken Libbrecht, who lives in Avery, helped begin the move to allow freshman into Avery. When he first came to Avery, he noticed that it was unpopular among undergraduates, and it became clear why. Undergraduates treated Avery as a last resort if they got kicked off, and if they did get stuck in Avery, they would socialize in their own houses, giving Avery a desolate feel.

Allowing freshman into Avery will achieve two goals at once. Avery can build up a community, and students in the existing houses will be happier when their housing crunch will be alleviated. He also described his own experience in Page House, noting that he would come out and find people he liked, saying that students naturally will come out and socialize.

In addition, he does not consider the freshman as fragile as most students treat them. "I have kids. Just give them some pizza and a problem set and they're happy." Finally, he notes that although no one can predict what Avery will be in a few years, "change is exciting," so this should be a good opportunity for the Caltech community.

Although it was a long meeting that lasted for three hours, everyone was rewarded with that hallmark of Caltech social events, free food. In fact, they ordered a good number of gigantic pizzas, with diameters of one meter.

The meeting provided ideas that Avery used during its constitutional convention last Thursday. They wrote up a final draft that the house will vote on before this term ends. Avery decided to write a new constitution to accommodate many changes, most notably the addition of freshmen. John Sadowski organized these efforts, and he has uploaded many files documenting the process and the final draft at <http://www.ugcs.caltech.edu/~avery/council/>.



Courtesy of ipac.jpl.nasa.gov

Spitzer sits atop a Delta II rocket before launch in August 2003. The telescope has since gone operational and brought in data.

Spitzer Project Brings In Grants for Campus

Continued from Page 1, Column 3

In regard to planetary formation, Spitzer has found that they can actually form around brown dwarfs, which in turn can orbit about active stars. Another interesting result is that planets can form in only a million years from a star's creation, much earlier than previously expected.

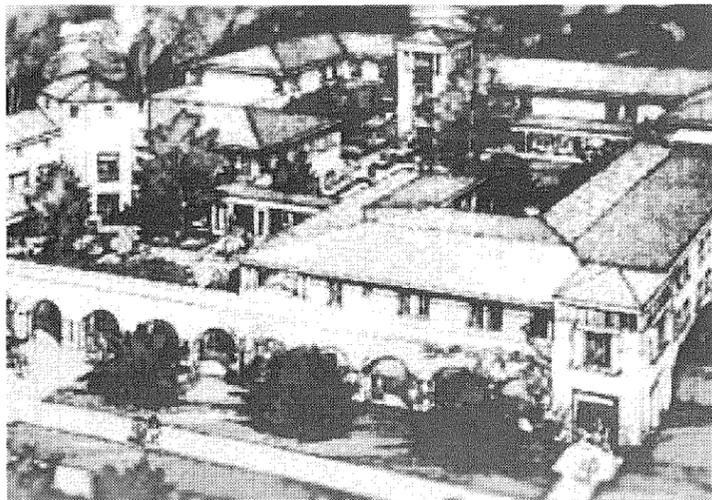
Infrared spectrum analysis of far-away gases provokes another interesting possibility. They turn out to be filled with a rich assortment of organic compounds. The newly developing field of astrobiology is now studying these molecules to determine if it may have been possible that Earth was bombarded with organic molecules that catalyzed the formation of life. Of course, this would raise the probability of life on far-away worlds.

The telescope's design, at least conceptually, is not overly complicated. It consists of a framework made by Lockheed Martin. A solar panel powers the telescope as it orbits our sun. A short- and long-wave camera designed by Harvard takes the observations, making use of infrared technology developed by the military in

relation to heat-seeking technologies.

Half of the telescope is black on the outside to radiate heat away from the instruments. The cameras have to be kept cryogenically chilled due to their extreme sensitivity to thermal noise. Enough liquid hydrogen remains to keep the cameras cool for another four years, at which point the telescope will no longer be operational.

The \$70,000,000 Spitzer project has a close association with Caltech. Caltech astronomer Bob Leighton developed much of the foundation for deep-space telescopes when he compiled a two-micron survey of the galaxy. His team included many undergraduates that would go on to become Nobel laureates or obtain prestigious high-responsibility jobs at other universities and government agencies. No more complaining about star-surveying SURFs. Control over daily Spitzer operation occurs at the Spitzer Science Center at JPL, which receives nearly a thousand proposals for years requesting time on the telescope.



The California Tech Archives

Avery is currently planning a new Constitution to take into account having freshmen in residence.

The California Tech
Caltech 40-58
Pasadena, CA 91125