

D. Korta/The California Tech

Dr. John Schwarz speaks about the history of superstring theory on Wednesday as part of the Watson Lecture Series. Schwarz is the Harold Brown Professor of Theoretical Physics.

Schwarz Outlines Past, Future Of Superstring Theory Development

By MARK POLINKOVSKY

On the evening of Wednesday, February 11, 2004, Professor John Schwarz addressed a packed Beckman Auditorium in his Watson Lecture on string theory. Dr. Schwarz, the Harold Brown Professor of Theoretical Physics at Caltech, fittingly titled his lecture "String Theory: Past, Present and Future." In the lecture, he outlined the development of string

theory and then continued on to describe problems that the theory has yet to overcome.

In his introduction, Professor Tombrello described some of the honors that Professor Schwarz has received. He also emphasized the important work Dr. Schwarz has done.

Professor Schwarz divided his lecture into three periods in the development of string theory. The first period, "The Past" stretched

from 1968 to 1993, "The Present" continued from 1994 to 2004 and "The Future" addressed the major problems still remaining.

String theory was first devised to explain the strong nuclear force. Originally proposed in 1968, it quickly became an area of very active research. Soon, however, quantum chromodynamics (QCD) was developed for the same reason. It was more successful at explaining the strong force and string theory was abandoned by the majority of theoretical physicists. Several problems made string theory unpopular at the time. It involved 26 dimensions, did not describe protons and neutrons and gave massless particles when the ones in question should have mass.

Yet, there was a breakthrough
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Monologues Entertain, Raise Women's Issues

By ROYAL REINECKE

With a name like *The Vagina Monologues*, Friday night's sold-out production in Baxter Lecture Hall promised a provocative and evocative performance, certainly not a show to skirt the issues—and it definitely delivered on that promise. In awe of the show's direct, frank and confrontational treatment of women's issues, one anonymous male audience member ironically exclaimed, "That takes balls!"

Friday the 13th of February

proved auspicious for the Caltech community this year as V-day came to campus for the first time ever. Performed on college campuses, at community centers and in churches across the country each year, *The Vagina Monologues* celebrate not just V-day, but the ideals for which the V in V-day stands: "Victory, Valentine and Vagina."

Eve Ensler's Obie-Award-Winning play aims to increase awareness, raise money and promote a

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Courtesy of R. Niemer

Ricketts RA Jessica Edwards performs her monologue as other members of the cast look on.

Voter Figures Indicate Confidence in ASCIT

By KEVIN BARTZ

In a departure from the last year's record-setting turnout, low vote totals signalled broad contentedness as a crew of familiar faces swept ASCIT balloting last Monday in what was widely seen as a vote of confidence for the outgoing board of directors.

"We have lower voter turnout," said outgoing President Tom Fletcher '04. "People are less angry. They are pleased with what has been done."

Not that no one tried to shake up the system this year. Outsider after outsider bit the dust last week, from those in more prominent elections like the race for Academics and Research Committee chair to those for more localized positions like treasurer.

In particular, the hotly contested IHC chair election emerged as the focal point of this year's slate of contests. ARC representative Kim Popendorf '06 came out on top of a disparate field of candidates promising everything from freshmen in Avery House and more frequent "Mudeo" gaming

shows to a return of Dean of Students Jean-Paul Revel's now-defunct weekly commentary.

None received more than 21% of first-place votes, but after eight tense redistributions Popendorf edged out Ruddock icon Michael Priolo '05 by a mere 14 votes, barely enough to overcome ASCIT's margin of error. He was followed by five others in the markedly divided seven-way race.

Still, even the runners-up acknowledged that the battle was a decisive victory for Popendorf, the first sophomore elected to the position in 12 years.

"Kim has a lot of friends because she's a really nice person, and with the support of her friends, I'm sure she'll do a fine job as IHC chair," said fourth-place finisher Chris George '06. Dual Blacker and Ricketts resident Andrea Kung '05, who placed sixth, agreed. "I believe that Kim will do her best to serve as a liaison between the students and the administration," she said. "She cares deeply for the student

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L. Tran/The California Tech

Health Educator Jane Curtis prepares some information about the survey being released today.

Health Survey to Hitting Inboxes Today; Curtis Targets Base Data

By KAYTE FISCHER

Today, Tuesday, February 17th, the first comprehensive health survey ever conducted on Caltech campus will be emailed to graduate and undergraduate students. The email will include a unique link for each student, sending them to the American College Health Association's (ACHA) confidential, web-based survey. The topics on the survey range from bike helmet use to oral sex habits.

According to Jane Curtis, Campus Health Coordinator, the intent of the survey is to get baseline data on a broad spectrum of student health behaviors and then to create programs based on the identified needs.

Says Curtis, "Evidence based and data-driven programs are always far more effective. We must ask, 'What are the needs of this campus?' And it's up to the

students to give accurate honest data."

Caltech enters the four year old survey as the 180th college campus, in the company of a large variety of two and four year institutions. Schools such as USC and Penn State have had excellent results with the programs created because of this survey. This is the first term for the web-based survey to appear; Curtis believes that many more schools will take the survey, increasing the number involved to well above the current 106,096 students. Health educators across the country are collaborating to assess the general health status of the college community.

Curtis elaborates, "This survey is the most comprehensive instrument available for college campuses."

The main benefit of this survey will be the variety of Caltech-specific programs it will generate.

Curtis anticipates developing programs to combat student issues in a small intimate setting. Beyond that, the data will drive the programs, in other words, the survey results will set the priorities.

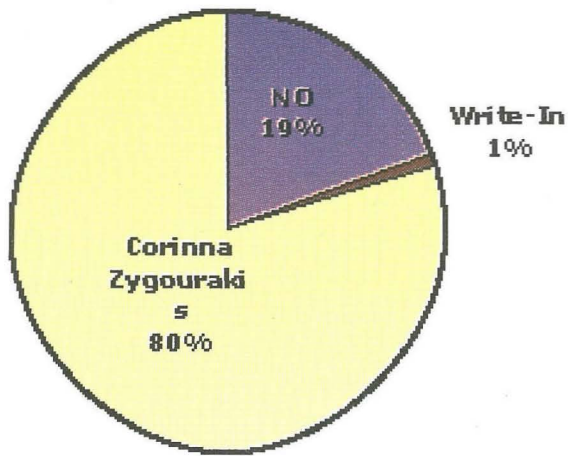
Additionally, by taking the survey, students are automatically entered in a drawing for more than \$1300 worth of incentives. Curtis worked with a committee of students to formulate the list, which includes movie passes, chair massages, gift certificates to local restaurants, online music stores and much more. In addition to these individual gifts, the house with the highest response rate will win a \$300 cash prize.

Ryan Olf, '05, reacts, "I would use any one of these prizes really, they're very well chosen."

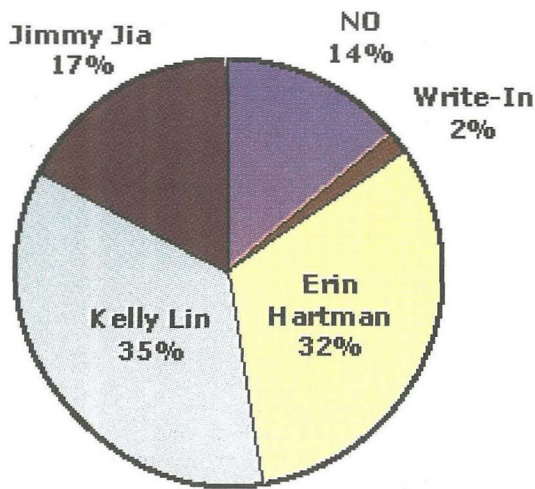
Curtis hopes to get the preliminary results early in 3rd term, just in time for the April 16th Health and Work Life Fair. She will pro-

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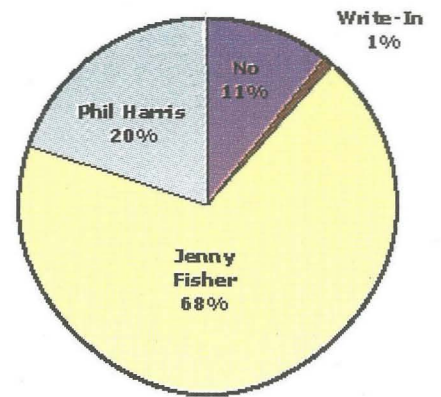
ASCIT Secretary



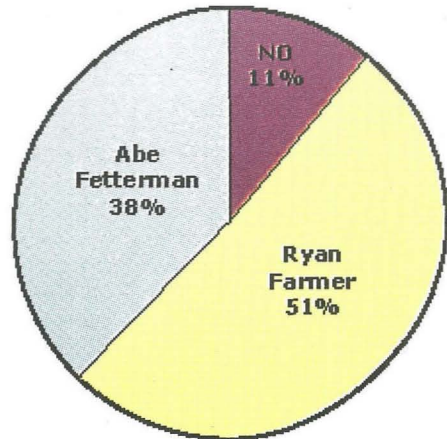
ASCIT FDAL (First Round)



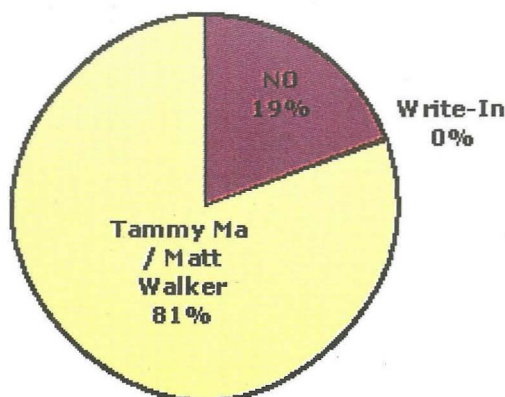
ASCIT Director for Academic Affairs



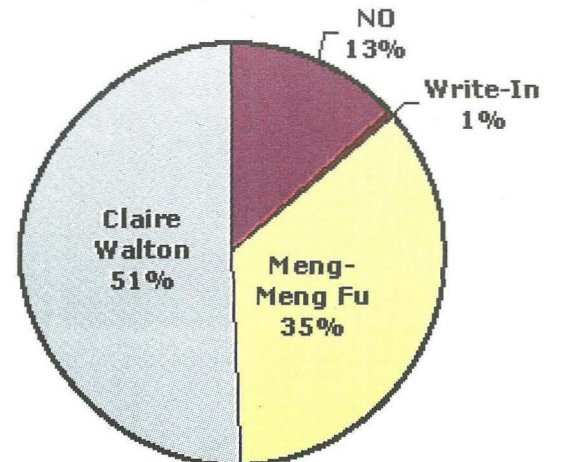
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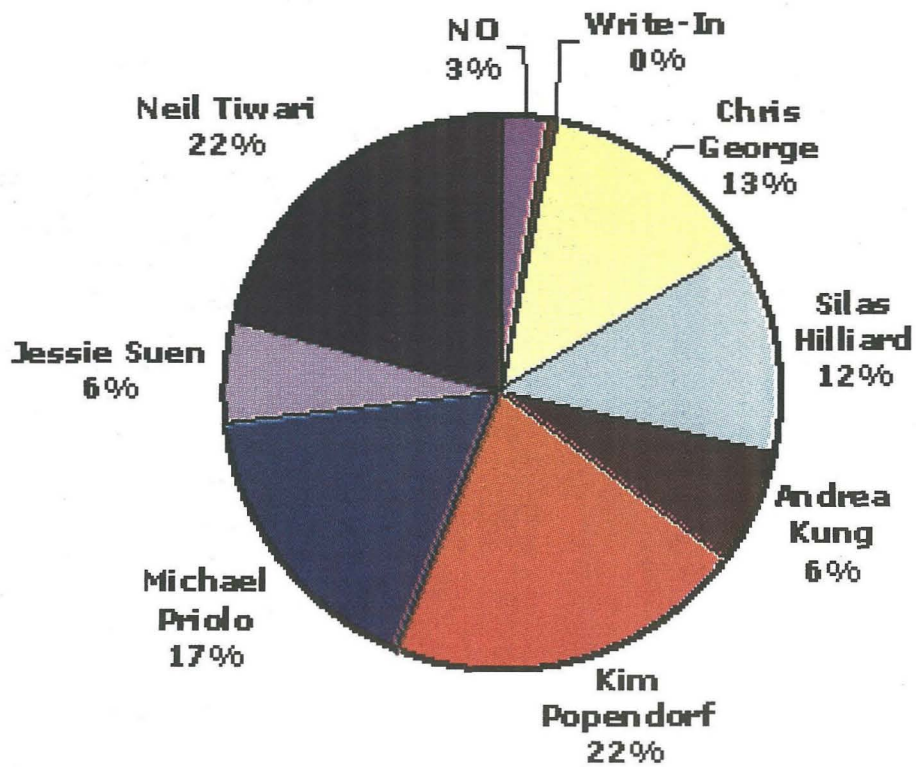
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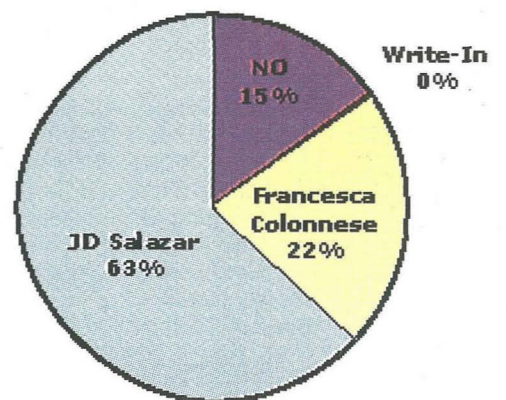
ASCIT Director for Social Activities



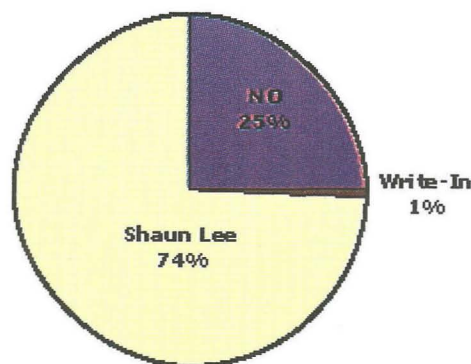
IHC Chairman (First Round)



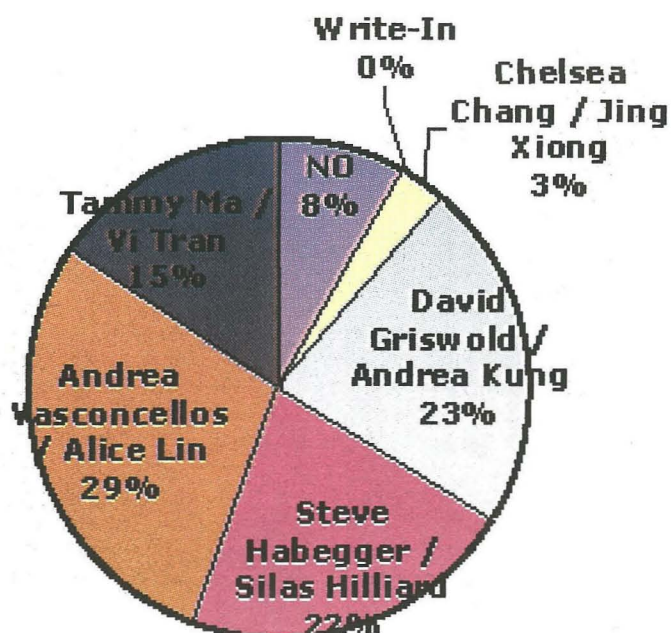
BoC Secretary



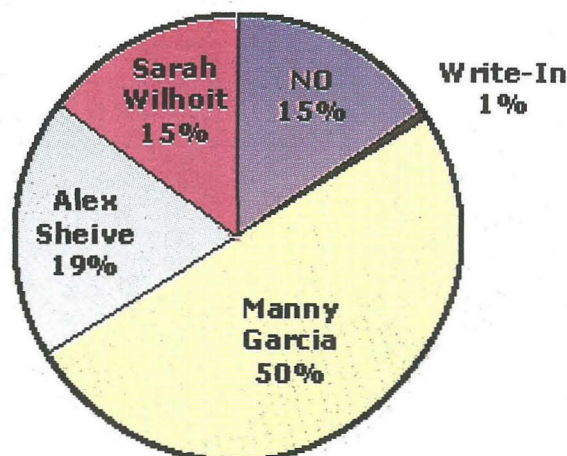
ASCIT UDAL



C/O 2005 Senior Class Co-Presidents (Round 1)



CRC Student Co-Chairman



The California Tech

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With Few Exceptions, Returning Veterans Dominate Challengers

Continued from Page 1, Column 5

body and it's future."

With barely seven percent, Kung placed ahead of Jessica Suen '05 at six percent, and was outpaced by Silas Hilliard '05, George Priolo, Neil Tiwari '05 and Popenorf, with 13%, 14%, 18%, 22% and 22% of first-place votes, respectively.

Popenorf won with a nonsense message touting her devotion to maintaining house traditions throughout the long-anticipated renovation of the seven on-campus houses and her firm opposition to allowing freshmen to live in Avery. "I will put my energy towards making sure that our houses have a way to survive while we're temporarily displaced," she said. Runner-up Priolo, who declined comment, had crafted a similar platform.

Interestingly enough, it was the second year in a row that ASCIT's complex preferential voting system proved the deciding factor. No candidate accrued more first-place votes than Tiwari, but Tiwari received such a dry stream of second- and third-choice votes that he fell to third after ASCIT officials redistributed losers' ballots. Priolo, for instance, started off well behind Tiwari but catapulted ahead by the eighth round on a wave of 63 second-choice ballots, enough to double his total. Tiwari inched from 84 to 98.

It was an almost eerie replay of last year's IHC chair race, which saw Neda Afsarmanesh '04 fall to Jeremy Pitts '04 in a runoff election despite receiving considerably more first-place votes.

Disparities like this typically arise when a candidate presents a polarizing message. Enter Tiwari, an ASCIT unknown who campaigned hard on a bid to consider the Avery option for freshmen. He also pressed heavily for off-campus rights, a thorny issue among the on-campus masses.

While he congratulated Popenorf on her win, Tiwari expressed reservation on her willingness to reach out to those outside the seven campus houses. "To be fair, I will not make any judgements before she has a chance to show her abilities," said Tiwari. "However, I am deeply concerned by her candidate statements... She must reach out to those whom the IHC has historically neglected."

Fletcher saw the results as the byproduct of "a touchy issue" regarding Avery. "Tiwari tied for first in first-place votes," explained Fletcher, "but picked up only 14 second-place votes. I think what we're seeing is that there was a strong vote of 'not Neil.'"

The senior class co-presidential election was similarly divided. Alice Lin '05 and ASCIT veteran Andrea Vasconcellos '05, who placed second in ASCIT's presidential polling three weeks ago, triumphed in a tight five-way race.

"Our immediate plans to achieve our agendas for senior class co-president," said Lin, "will probably involve surveying the senior class for activities they'd like to do: for example, ideas for a weekend outing somewhere or day trip."

Vasconcellos pointed out that she and Lin stood among a field of single-house teams. Indeed, the teams of Fleming members Tammy Ma '05 and Vi Tran '05, Ruddock faithfuls Hilliard and Steve Habegger '05 and Blacker Moles David Griswold and An-

drea Kung '05 took 15, 21 and 22 votes, respectively, in what many saw as a solid house breakdown. With dual Fleming and Lloyd appeal, Vasconcellos and Lin mustered 41 in the final redistribution.

Both said they were ready for any outcome, but grateful for the win. "I guess I didn't know what to expect, so I was a little pleasantly surprised," said Vasconcellos. She added that she was pleased that Lin's term abroad in Cambridge didn't seem to encumber their ticket.

The three-candidate FDAL race also emerged as a point of contention. Armed with a specific set of ASCIT goals, Kelly Lin '07 narrowly sidled past Erin Hartman '07 and donut.caltech.edu developer Jimmy Jia '07, carrying 42% of tallies over their respective 38% and 20%.

It was seen in some circles as a triumph of determination. Hartman's statement was a succinct bit of fill-in-the-blank humor and Jia's featured a picture of a cat in lieu of himself. Lin, on the other hand, took the space to outline her plans to raise freshman awareness and republish the Undergraduate Research Opportunity Handbook.

"The voters probably liked the fact that I'll be trying to get the UROH published again," she held. "I also set specific goals for myself, such as getting the frosh more involved in ASCIT by promoting ASCIT events through fliers and e-mail."

Another nerve center for attention was the race for treasurer, which saw interim social director and former pundit Abe Fetterman '05 chalk up his third electoral loss in three years. Fetterman, who raised the ire of some with his freshman-year ballot initiative--ASCIT's first ever--that would've required the Board of Directors to provide Friday morning doughnuts, tried to distance himself from his politicking past with a no-nonsense technology-driven financial plan.

But Fetterman couldn't overcome newcomer Ryan Farmer '06, who campaigned under a broader platform--not entirely money-muddled--that emphasized his popular views on Rotation and the upcoming house renovations.

"I want to make sure that the house system and Rotation are not changed significantly," he maintained. "The budget will [also] be a huge part of my job, so I plan to keep a close eye on all proposals and will make sure that there is money when an organization is in need." Farmer harvested 58% of ballots, with Fetterman, who did not return calls for comment, fetering the other 42%.

Ironically, balloting broke down nearly the same way in the dual bout for social director, in which Ruddock mainstay Claire Walton '05 nosed out Chinese Student Association president Meng-Meng Fu '06, 59% to 41%. Walton, who's made her presence known at BoD meetings and through a recent Ruddock dance, kept her message quite concise: "Vote me," she wrote. "Everything would work out somehow."

Disappointment was evident in the Fu camp. "I have faith that the voting population reads the Tech before making their decision," she explained. "Perhaps some were not very receptive to my ideas." Still, she voiced a note of confidence for Walton's prospects--she's "positive that Claire will do

an excellent job provided that she organizes and plans ahead"--and further expressed hope that the ideas she brought to the fore in this election, which ran the gamut from a Caltech concert to a more exciting Prefrosh Weekend, will remain on the table for discussion.

Another two-way race that caught the public eye was the battle for ARC chair, made almost comic by the entry of conspiracy theorist Phil Harris '05, whose candidacy zeroed in on a hodgepodge of perceived ASCIT conspiracies. "Part of my message was that people take these elections too seriously and overlook candidates because they don't have some fancy resume," he said. "I was sick and tired of hearing the same sort of speeches, and I wanted to write a speech that gave back to the people."

Indeed, with his ASCIT resume completely bare, Harris netted just 22%, nearly 60 points behind one-year ARC veteran Jenny Fisher '06, whose statement broadcasted her aim to "increase the ARC's impact, visibility and accessibility. The ARC is the ideal forum for bringing academic concerns to the attention of professors and administrators."

Despite his loss, which he himself expected, Harris was equally pleased with Fisher's win. "She is probably more qualified for that job than I am," he conceded. "I think she will do a good job."

In ASCIT's shrouded world of discipline, the public ratified incoming Board of Control Secretary J.D. Salazar '05 and reaffirmed present Conduct Review Committee chair Manny Garcia '05, handing both generous decisions. Still, although all students--not just ASCIT members--can vote in these elections, turnout was particularly low: only 272 amongst 931 undergraduates voted for a candidate, compared to the 401 who voted in the race for IHC chair.

Relative disciplinary newcomer Francesca Colonnese '06, who lost to Salazar with just over 25% of tallies, attributed it to what she sees as many students' lack of time and energy to read candidates' statements. "I believe that Caltech elections suffer from many of the same flaws as high school elections," she said. She added that she ran in part because "I would have hated to see such an important office won by default" in an election that Salazar, without her entry, would've won in a walk.

Still, Colonnese was confident that one-year BoC representative Salazar is well-equipped for the task. "I think that J.D. will do an excellent job," she exclaimed. "I hope his experiences from being Ruddock's BoC rep serve him well and I wish him the best of luck." The centerpiece of Salazar's candidacy was gauging and preventing undergraduate honor code infractions in light of a recent survey that pegged graduate violations at an alarming 23%.

Meanwhile, the results of the CRC election came down as a peremptory affirmation for Garcia's year of experience at the helm. Even though he failed to campaign or even publish a statement, Garcia netted 60% of ballots in a contested three-way race, quelching the upstart candidacies of Alex Sheive '06 and Sarah Wilhoit '05.

Sheive, who said he entered the race only because he did not

know at the time that Garcia would run, shed no tears over his handy defeat. "I think Manny did a good job last year and that he will do well as CRC chair as I would have," he explained. "The only important thing is that we have someone who's reasonably responsible and willing to fight for student rights rather than help infringe upon them." Sheive's 22% was good enough for second, while Wilhoit, whose platform emphasized her individual approach to discipline, amassed 18%.

There were three uncontested elections, in each of which the ever-present "NO" vote, a rejection of all candidates running, made barely a blip on the radar. Corinna Zygourakis '06 steamrolled the vote for secretary with 291 votes, Tech duumvirate Tammy Ma '05 and Matthew Walker '06 were anointed editors with 289 and *Caltech Undergraduate Research Journal* long timer Shaun Lee '05 captured ASCIT's upper-class directorship with 219.

Underpinning Zygourakis's run for secretary was her expressed devotion for student life. "I believe that one must get involved in student life and student government in order to change things," she said.

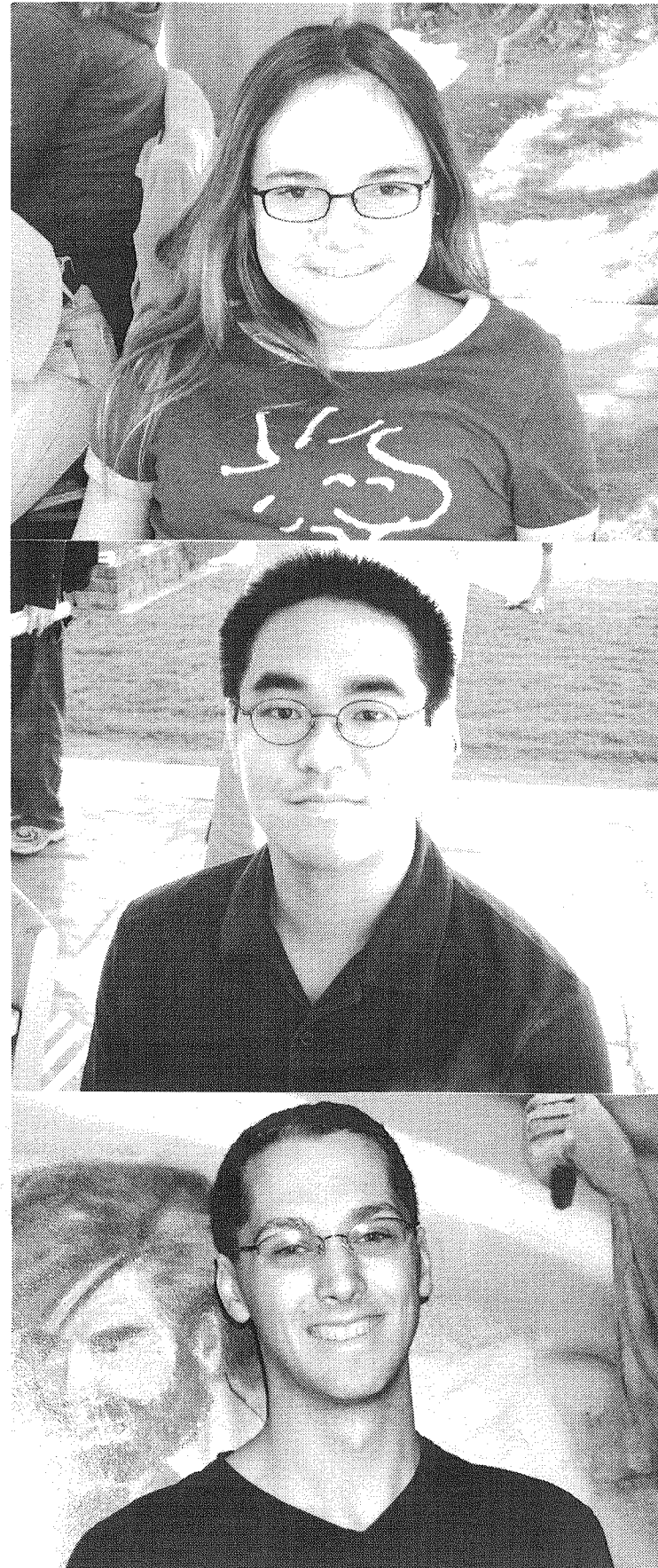
Two-year managing editor Ma and one-year spotlight writer

Walker promised to continue their tradition of dedication to the Tech. "You'd be hard-pressed to find two people as passionate about the paper as us," they wrote.

Meanwhile, Lee pledged to use his *CURJ* experience to shape delinquent editors into deadline-meeting form. "Working as executive content editor for the past three issues of *CURJ* has given me a lot of experience in dealing with student publications and organizing a staff of editors who don't always want to work," he explained.

All three are poised to face their roles with considerable relevant experience, mirroring a larger trend in this year's election: public content. Whereas Fletcher last year rolled into the presidency on a mandate for change to a BoD seen as overly secretive, this year's electorate seemed less displeased with the status quo. "There seems to be less anger," said Fletcher.

Last Monday capped four heated weeks of ASCIT elections that earlier placed Galen Loram '05 at the BoD's helm and later affirmed Ann Bendfeldt as vice president. Last week's round filled out the remainder of the BoD and ASCIT's auxiliary positions. "There's new blood moving through," said Fletcher. "We've elected a good mix of people."



L. Tran/The California Tech
Claire Walton, Shaun Lee, and Ryan Farmer will all soon begin their terms as Social Director, UDAL, and Treasurer, respectively.

Gay Marriage Arouses Controversy from Coast to Coast

Massachusetts Supreme Court Ruling Spurs Debate on the Sanctity of Marriage, Equality

By PARAG BHAYANI

On February 4, the issue of gay marriage was thrust into the national spotlight as never before after a Massachusetts Supreme Court ruling declaring that nothing short of allowing homosexuals to marry is constitutional.

The court reaffirmed the concept put forth by the Supreme Court in the 1954 *Brown v. Board of Education* ruling, that separate

ing last Thursday, the city of San Francisco allowed homosexuals to get married in defiance of a state law banning gay marriage. Recently-elected mayor Gavin Newsom explained this act of civil disobedience by saying, "I'm not interested as a mayor in moving forward with a separate but unequal process for people to engage in marriages."

As of this writing, 665 couples, many coming from the Los Angeles area, have been married, and more weddings took place on Saturday as the courts stayed open for Valentine's Day. These licenses may not be upheld

Indeed, millions of children right now are being raised by homosexual couples without an epidemic of corruption of young ones. Another conservative commentator, Maggie Gallagher, claims that children are left to adjust to "alternative" families with two same-sex parents or a father who has left the mother. Therefore, families with two gay parents or just a mother are equivalent in comparison to a mother & father family. Her idea is that "alternative" families where a father has left may teach a boy to do the same when he grows up, thereby continuing a trend of single-parent homes.

What Gallagher fails to realize is that in a gay marriage, both parents are present. Therefore, the son would not pick up such ideas that it is acceptable to leave the family as a grown man. The child instead will see that two responsible parents, whether or not they are the same gender, is beneficial to the maintenance of the family unit.

Additionally, the anti-gay wedding Family Research Council issued a press release on Friday

condemning the actions of Newsom and the city of San Francisco. The Council derides legalizing gay marriage, decrying the "agenda of normalizing homosexuality and gaining public acceptance of their behavior." Think about this statement. The council is saying that gay people want to be treated like ordinary people. Well, of course! It is part of their nature to be attracted to others of the same gender; there is no such thing as people voluntarily becoming homosexual. Who would want to do so in such a hostile environment, where people like the Reverend Fred Phelps march around carrying signs that say all gays are going to hell? This push for equal recognition is a militant homosexual agenda, as some conservatives have put it, to corrupt our society. It must be put down as fast as possible; otherwise, our society will spiral downward into that dark abyss called equal rights for all.

Marriage is regarded as a quintessential institution that must be kept pure for posterity. I do not argue its importance, but the behavior of heterosexual Americans does nothing to lend credence to this idea. One step towards promoting the sanctity of marriage would be to not allow divorces. This would underscore the idea that marriage is a bond between two people committed to each other for the rest of their lives. The problem is that, currently, over 40% of marriages end in divorce (including those of Newt Gingrich and Rush Limbaugh).

President Bush has even committed \$1.5 billion to promote the values of marriage in this year's budget. However, he also supports a constitutional amendment to ban gay marriage, which would be the first amendment to actually abrogate the civil rights of a group of people. Why not instead include homosexuals who are devoted to each other and will stay together for life, as most marriage advocates would desire? Many of the couples getting married in San Francisco have been together for decades. Openly-

"There is no such thing as people voluntarily becoming homosexual. Who would want to do so in such a hostile environment?"

after court challenges, but their symbolic meaning is powerful.

Conservative activists are up in arms over these decisions, and hundreds have gathered to protest in front of the Massachusetts legislature building. Matt Daniels, the head of the Alliance for Marriage, proclaimed that, "we cannot thrive if we continue to see the disintegration of the unit of the family." Gay marriage opponents say that families necessarily must have one father and one mother. However, this precise combination is not needed in order to ensure a family that is successful in raising children.



Phyllis Lyon, 79, left, and Del Martin, 83, embrace after being married at San Francisco City Hall on Thursday. They are the first same-sex couple to be officially married in the United States.

courtesy of The San Francisco Chronicle

This recent decision reinforced a November, 2003, ruling that struck down a Massachusetts law defining marriage to be between one man and one woman. The court set the date of May 16, 2004 as the deadline for when the ruling would take effect.

Recently, another bastion of liberalism has taken up the cause of allowing gays to marry. Start-

gay conservative writer Andrew Sullivan tries to understand the mindset of those opposed to gay marriage, saying, "Heterosexuals...have never doubted that one day they could marry the person they love. So they find it hard to conceive how deep a psychic and social wound the exclusion from marriage and family can be."

What's more, adultery and spousal abuse are rampant in America. Many leaders, both Democratic (Clinton, JFK) and Republican (Gingrich and Henry Hyde-the main proponents of the Clinton impeachment) are guilty of infidelity. We also hear stories every day of men beating their wives, and occasionally, of women beating their husbands. The recent performance of *The Vagina Monologues* was, in fact, to help the plight of battered women.

Considering all of this, we must keep in mind that significance of marriage is not that it is reserved for one man and one woman, but that the two people who enter into this bond remain devoted to each other for the rest of their lives. As conservative scholar David Brooks writes, "[Gay marriage critics say] it is women who domesticate men and make marriage work...In truth, it is moral commitment, renewed every day through faithfulness, that 'domesticates' all people."

I will close with the words of Sullivan, who feels that while one may disapprove of homosexuality, be it for religious or other reasons, "disapproval needn't mean disrespect. And if the love of two people, committing themselves to each other exclusively for the rest of their lives, is not worthy of respect, then what is?"

Crying Blood

A New Comic by Tony Falk and Jack Lee



Mike Kabler, left, puts a ring on partner on finger of Kevin Fox, both of Oakland, CA. Other marriages take place in the background.

courtesy of The San Francisco Chronicle

Sports Week: Tennis Love, Baseball Posts Losses

By MIKE RUPP

February 9, 2004

Athlete of the Week

Kristen Zortman:

Women's Track & Field

The Junior from Stevens Port, Wisconsin, in only her first full season playing Track & Field, gave Caltech something to cheer about at the 2004 Caltech All-Comers Track and Field meet this past weekend. Zortman threw a 105'8 to win the Women's Javelin competition. Zortman also posted an impressive 14.66 Time in the Women's 100 meter dash. A three-sport athlete at Caltech, Zortman is also a major contributor for the Women's Volleyball team, and played Baseball her first two seasons at the Institute.

Week in Review

Men's Basketball (0-18)

Head Coach: Roy Dow

The Men's Basketball team con-

Men's Basketball

Caltech.....29
POMONA-PITZER.....73

Caltech.....32
OCCIDENTAL.....76

tinued to slowly narrow the gap this past week. Junior Forward Jeffrey Lamb was the high scorer for the week, scoring 19 points for a 9.5 average. Sophomore Guard Day Ivy has seen his scoring average increase in seven of his last eight games. He averaged 2.5 steals last week, bringing his total to a team high 33; three times that of the next Beaver. He also leads the team in rebounding (3.2/game) and blocks with 5. Sophomore Guard Scott Davies made his return to the starting lineup against Occidental, with team-highs in points (9), assists and steals. The team plays its

next game this Wednesday against Whittier.

Women's Basketball (0-18)

Head Coach: Sandra Marbut

The Women's Basketball team

Women's Basketball

Caltech.....20
LA VERNE.....59

CAL LUTHERAN.....82
Caltech.....13

showed improvement in its loss to La Verne this past week. Freshman Guard Diana Lin had arguably her best game so far this season, leading the team by tying her career-highs in scoring (9 points) and steals with 2. Lin also had only two turnovers despite playing a full 40 minutes. Freshman Forward Lisa Tran lead the team in rebounding with 5. At Cal Lutheran on Friday, Sophomore Center Shelby Montague lead the team with 8 points, 8 rebounds, and one each for assists, blocks and steals. Tran also played well, setting a career high in scoring and collecting 4 rebounds and 2 steals. The team plays next this Tuesday night at home against Pomona-Pitzer.

Swimming / Diving

Head Coach: Clint Dodd

Men's Swimming/Diving

Caltech.....104
OCCIDENTAL.....114

Women's Swimming/Diving

Caltech.....79
OCCIDENTAL.....133

Senior Jacki Wilbur continued to dominate the for the Women's Swim team against Occidental

this past week-end. Wilbur won the 50 and 100 Freestyles, and lead the team that narrowly finished 2nd in the 200 Medley Relay. Junior Jason Lee was the best performer on the Men's side, winning the 50 Freestyle, narrowly coming in second in the 200 Butterfly and playing a major role with the winning 400 Medley Relay team. The Caltech divers continued to dominate with Sophomore Ben Pelletier and Sophomore Rebekah Eason both winning the 1 Meter and 3 Meter dives for their respective genders.

The team will next participate at the SCIAAC Diving Prelims next weekend, with the SCIAAC Championships to follow on the 21st-22nd.

Men's / Women's Tennis

Head Coach: Mandy Gamble

The Men's and Women's Tennis teams both split their weekend matches, easily sweeping La Sierra University on Sunday after being swept themselves by Redlands on Saturday. Highlighting Sunday's performances, Freshman Philipp Perpelitsky led the Men, winning at #2 singles 6-0, 6-0, and then teaming with last week's Caltech Athlete of the week John Howard to win at #1 doubles, 8-0. Sophomore Jenny Hsaio had one of the best weekends for the women, going 6-0, 6-0 at #4 singles before teaming with Sophomore Mariya



courtesy of donut.caltech.edu

In just her first full season on the Track and Field Team, junior Kristen Zortman has posted impressive times, as well as a first-place finish in the javelin throw at last weekend's meet.

Nomanbhoj to win 8-3 at #1 doubles. Tennis plays this Tuesday at home against Biola.

Baseball

Head Coach: John D'Auria

The Men's Baseball team lost both games of their double-header to Simpson College this past Saturday. Junior Isaac Gremmer pitched an outstanding 7 innings the first game, giving up only two earned runs in a 5-1 loss. Sophomore Tim Boyd accounted for Caltech's sole run with the first home run of his collegiate career. The second game was lost 10-7 despite home runs by both Gremmer and Senior Shortstop David McKeen. The team plays next this Saturday.

Track & Field

Head Coach: Julie Levesque

Caltech Track and Field hosted the 2004 Caltech All-Comers meet this past Saturday, with athletes from every level participating. Caltech's own distinguished themselves well. In addition to Kristen Zortman's Athlete of the Week performance, Sophomore Gustavo Olm also impressed, with a 9:35 time in the Men's 3000 meter. The team competes next at CSU Bakersfield next Saturday.



SURF applications and proposals are due March 1, 2004. The SURF application is now available online. Students can start checking the SURF website at www.surf.caltech.edu. For questions, please call the Student-Faculty Programs Office at x2885 or email us at sfp@caltech.edu.

Caltech Shooting Club presents: Free firearms training at Front Sight in Las Vegas. An alumnus has donated passes good for four days of gun training, good for anyone who didn't go last year. Courses are available in rifle, pistol, or shotgun, and normally cost \$1200. Cost to you will probably be less than \$100. Possible dates are March 12-15, April 23-26, May 7-10. Contact coxj@its.caltech.edu for more information.

Racquetball Challenge Court. Wednesdays, 5:30 - 8 PM, Braun Gym. Show up to the Racquetball club's challenge court and take on anyone here. We usually have two reserved courts, and we play winner stays on. Challenge yourself and a worthy opponent! Everyone is welcome and we normally have all skill levels show up (including beginners). And if you don't know how to play, look for our next monthly club sponsored lesson. You can borrow the necessary equipment from the front desk. See you there!

Join Caltech Ballroom Dance Club for its amateur taught Mambo class! Mambo, meaning "conversation with the gods" is a spicy Caribbean mix of African rhythm and European moves. This particular class will center around learning moves to make a Mambo formation for performances. However, all the steps can be used outside of the formation! Thursdays from 7:30 to 9:00 pm in Winnett Lounge, starting Feb 12. Cost: \$1/class. Refreshments will be served. No experience or partner necessary!

Learn the exhilarating and fabulous **Viennese Waltz!** (and learn what it might be like to live in a centrifuge...) Monday nights starting February 9th. Winnett Lounge, 7:30 to 9:00. Viennese Waltz classes taught by professional instructor Michael Donovan. Fee: Students, \$6 per class or \$25 for the series; others, \$8 per class or \$35 for the series. No partner or experience needed! Lots of

Continued on Page 6, Column 1

MATLAB Programmer Wanted.

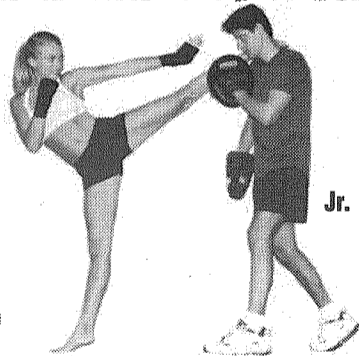
Part-Time 10-20 hrs/wk. Salary negotiable depending on experience. Programmer will be responsible for working with Bio +Engineering team to help design and optimize pattern recognition/image analysis software used for automation of genetic screens of innate behavior in fruit flies. Please contact lebestky@its.caltech.edu.

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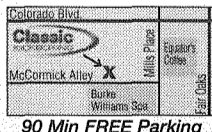
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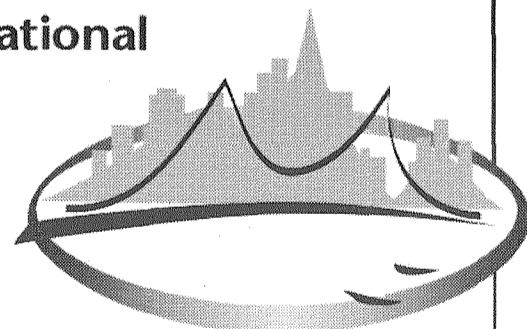
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Continued from Page 5, Column 5 refreshments. Mini party for practice dancing to be held afterwards!

The Tech Express will be holding their annual **Spring Fling Luau** March 10th from 11am-3pm. Drop by for music, hula dancing, free food, door prizes and outrageous pictures of you and your friends.

Submit to the Totem! The Totem is now accepting submissions for the 2004 edition of the literary magazine. Anyone in the Caltech community can submit their poetry, short stories, artwork and/or photography to the Totem. Please send your work by email (totem@its.caltech.edu), or by campus mail (MSC 292).

Women's Center Events

1) February 19 - The Top 10 Mistakes Women Make When It Comes To Their Health. Time: 12-1pm. Location: Women's Center located in room 265 of the Center for Student Services. Director of UCLA Women's Health Education and Resource Center, Cindy Moskovic, will address the crucial mistakes women make regarding their health, the impact of these mistakes, and the cultural and social factors that contribute to the problems. Start the year by taking charge of your health! RSVP required! To sign-up please call ext. 3221 or email: wcenter@studaff.caltech.edu

2) February 25 - Kumea Shorter-Gooden, Lecture and book signing, *Shifting: the Double Lives of Black Women in America*. Time: 12-1pm. Location: Avery Library. Dr. Kumea Shorter-Gooden, coauthor of *Shifting*, discusses how black women cope with racism, sexism, and the myths that govern their lives. Based on research garnered from the African American Women's Voices Project, Dr. Shorter-Gooden explains the survival strategy of many black women -- "shifting" as needed into different roles, personas, and even language appropriate to corporate America or black communities. Co-sponsored by the Office of Minority Student Education, the Women's Center, the Cultural Programming Group, and as part of Body Image Awareness Week events. RSVP to wcenter@studaff.caltech.edu

3) Women's Outdoor Adventure Series: Hike Echo Mountain. Saturday, February 28. 9am-Noon. Meet at 8:40am in front of the Center for Student Services Building. Stretch your legs and make some new

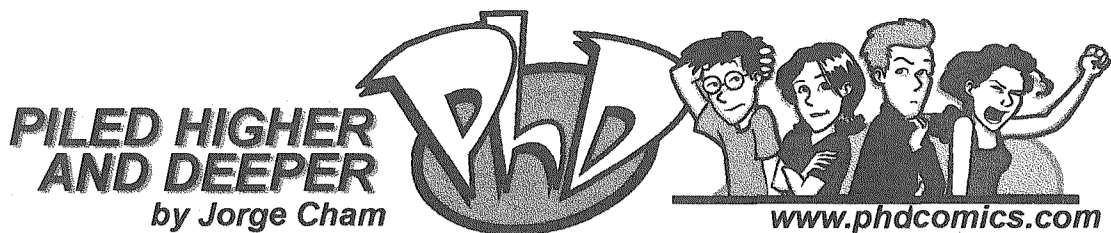
friends. This is a moderate five mile hike with spectacular views from the top! Also explore Echo Mountain's history as a resort for the rich and famous built in the 1800's. Open to women graduate and undergraduate students-but space is limited. Drinks will be provided, but if you have a favorite snack bring it along. The hike will be led by Jane Curtis, the Health Educator and transportation is provided. Please RSVP to 5772 or jcchock@studaff.caltech.edu

4) Introduction to Self-Defense for Women, Saturday, February 28. 1:00 PM - 5:00 PM, Caltech Women's Center This workshop provides an introduction to the physical techniques involved in self-defense. Participants learn a variety of hands-on techniques and will have the opportunity to rehearse verbal role-play scenarios. Reservations: 395-3221 or wcenter@studaff.caltech.edu.

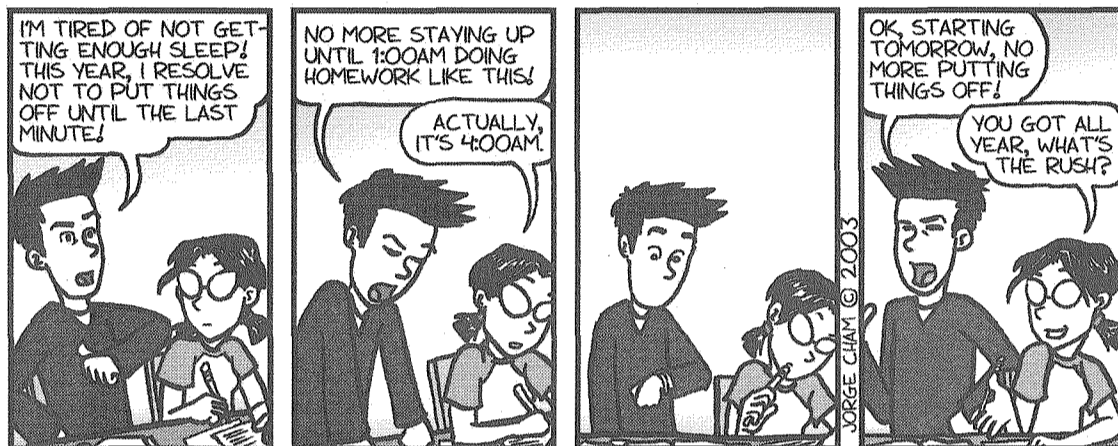
5) The Future of Feminism: Lessons from Our Past. Thursday, March 4, 2004. 12:00-1:00pm. Hall of Associates, Athenaeum. Lunch is free and open to the Caltech community. In honor of Women's History Month noted author and science education consultant, Sheila Tobias, will share her research on the history and future of feminism with a special eye on science and engineering. Space is limited. Please RSVP to x3221 or wcenter@studaff.caltech.edu.

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 29, 2004.

The first 2003-2004 Everhart Lecture, "Cancerous Stem Cells: Insights into the Origins of Human Brain Tumors" will be given by Houman David Hemmati, a Caltech-UCLA MD-PhD student in Biology. The lecture will be held in 101 Guggenheim Lab (Lees-Kubota Lecture Hall) on Wednesday, February 18 at 4 p.m. Refreshments will be served at 3:45p.m. For more information on the lectures, see www.its.caltech.edu/~els.



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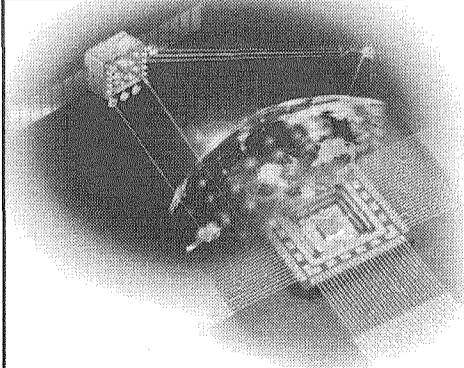
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Production Succeeds In Spite of Naysayers

Continued from Page 1, Column 2

worldwide effort to end violence against women and girls. Since 1998, the program has grown to include over 650 schools and has raised over twenty million dollars.

This year's V-day event originated in the visionary eyes of determined Chemistry graduate student and Ruddock RA Rachel Niemer. She, along with Candace Rypisi and Jess Reynolds of the Caltech Women's Center formed the Caltech V-day planning committee.

Niemer previously heard of the college campaign through other women and she saw it performed elsewhere for the past two years. Last summer, she checked out the book from the Women's Center. After reading the play, Niemer explains how she went up to Rypisi, said to put it on and this year's show "was born."

The money from Caltech's production of *The Vagina Monologues* will go to benefit the L.A. Commission on Assaults Against Women (LACAOW). Essentially this organization provides a local counseling, support and rape crisis center. It also does educational work in the school system and teaches appropriate behavior in relationships.

A portion of the proceeds from performances of *The Vagina Monologues* around the country this year will also go to help aid in Juarez, Mexico where employers have raped, mutilated, exploited and tortured female factory workers over the past decade.

V-day holds special appeal for Niemer. Assaulted (though not raped) during her first year of college, she finds that issues of violence against women really "hit home" for her. One of her majors in college was also women's studies.

Rachel Niemer considers Caltech an overall apolitical campus where issues such as sexual assault are "not talked about as a community." At the same time, she points out that Caltech women form a very well-educated group who know the risks. She estimates that ninety to ninety-five percent of Tech's females are aware of the problems facing women today. For example, one in five women will be date-raped in their lifetime.

Niemer views the production of *The Vagina Monologues* as a way to "open up a dialogue" on such issues. She finds men at Caltech to be generally indifferent—even oblivious—to women's issues

just because they are things men have never really thought about. "The Dreaded Ratio" considered, Niemer is thrilled to recognize how the campus has far exceeded her expectations in its enthusiasm for the event.

Initially Niemer worried the monologues might be met by uproar or lack of support. After all, every one of us can remember the days of elementary school when we greeted mentions of the word "vagina" with gasps and hushed whispers. In middle school, we audaciously dared others at the lunch table to yell "vagina" over the roar of the cafeteria at risk of punishment from the administration. And by high school, the word had basically become quarantined in health classrooms.

In fact, the discomfort most people feel speaking or hearing the word vagina serves as an indicator of the uneasiness we feel about openly discussing women's issues in general. This problem forms one of the main conflicts *The Vagina Monologues* seek to overcome.

At first Niemer struggled to find enough women volunteers to fill all the parts. She, Candace Rypisi and Jess Reynolds sent out e-mails to forty women undergraduates, graduate students, faculty and staff.

The cast would eventually consist of twenty-three women, with each of the seven houses represented by at least one woman. The diverse cast also included Deputy Chief of Security Lauren Kajitani, Health Center Staff Divina Bautista and Alice Sogomonian, faculty spouse Rachel Wing and MOSH/humanities professor Cathy Jurca, among others. Niemer believes that all the cast members really tried to figure out and gain understanding of the experiences of the women they portrayed.

Rehearsals began in the third week of January and required minimal time commitment from the actresses. Of the seven or eight total rehearsals, each woman was only required to attend a couple of them. The main purpose of practices was to help the women place emphasis on the right words and to get in character. In that way, Niemer believes that women "would not overact their parts but instead could let the words speak for themselves in pure earnestness."

Minimalism characterized the set as well—no backdrops, no props. One woman at a time stood



Undergrads Sam Lawler, left, and Kathryn Hsu perform their monologue: exchanging responses to the question "If your vagina could talk, what would it say?"

at the center of the stage speaking, while twelve others sat behind her in black chairs.

Cast members were told to dress all in black and to "accessorize with their favorite vaginal color" as Niemer jokingly adds. A couple women even wore pink and red feather boas to bring personal flair and a touch of femininity. For the second act, Junior Sam Lawler donned a t-shirt bearing the declaration, "F--- You, Fascist Beauty Standards."

There were also sign language interpreters from "Signs for Life," which Niemer hopes will prompt people to think about the different accommodations people have.

Ricketts RA and cast member Jessica Edwards believes that "part of college life is learning about the world." She views Caltech as somewhat of an "isolated bubble," and saw *The Vagina Monologues* as an especially good way to open the eyes of the numerous men here at Caltech to the issues facing women. Edwards described the readings as eye-opening, funny and a way to get people "to talk more openly about their experiences."

Above all, the incredible honesty of the monologues most deeply impressed Rachel Niemer. She notes that women's issues relating to the vagina are "generally not talked about in such a genuinely factual manner." Indeed the monologues definitely do not overdramatize the experiences they seek to portray. Niemer reveals that *The Vagina Monologues* are about women "simply acknowledging their stories." Niemer also remarks that the stories are "not full of self-pity or remorse, but instead are about acceptance and moving onward." At times awe-inspiring and uplifting, funny and beautiful, at other times quite scary, *The Vagina Monologues* cover the whole spectrum of emotions contained within human experience—from outrage to joy to awe.

The reading began by focusing on the lack of open discussion regarding vaginas. In an insightful analogy, one character exposed how "There's so much darkness and secrecy around them. It's like the Bermuda Triangle—no one goes there!" The three speakers in the introduction took turns listing off countless synonyms (from "pussy" to "monkey box") for that word which we usually keep locked so far behind our lips—"Vagina." Thus the scene was set for an unusually outspoken and forthright set of monologues.

Playwright Eve Ensler encountered some consistent themes as she interviewed women for the monologues. Without fail every

woman she spoke with mentioned hair in some way, shape, or form and thus the first vignette in her work is entitled simply "Hair."

Additionally Ensler asked each woman a couple of the same questions, the answers to which are addressed in the monologues. The first of these questions was, "If your vagina got dressed, what would it wear?" to which women responded with answers such as "a feather boa," "a tutu," "sweat-pants," or even "an electrical shock device to keep unwanted strangers away."

Secondly Ensler asked, "If your vagina could talk, what would it say?" Actresses Kathryn Hsu and Sam Lawler traded off reading insightful responses ranging from "slow down" to "come inside" to "ENTER AT YOUR OWN RISK!"

Monologues presented the stories and viewpoints of women across generations from a clever six year old girl who commented about her vagina that "somewhere deep inside, it has a really, really smart brain," to an elderly woman who noted that, "we didn't talk about these things when I was a girl." The monologue of one middle-aged woman centered around her recent discovery of her sense of sexuality in a "Vagina Workshop." In a stirring yet touching and funny moment, she revealed how "everything I knew about my vagina until then was based on hearsay or invention" and how at that moment she must have felt "how early astronomers felt with their telescopes."

Rachel Niemer herself read the monologue, "My Short Skirt," which she describes as "a celebration of young womanhood." Calista Flockhart, known for her micro-minis, performed the monologue on the television series *Ally McBeal* as well.

Other monologues related much darker tales that really tore at the emotions of audience members. "My Vagina Was My Village" told of mass rape in Bosnia and Kosovo, while the especially poignant "The Memory of Her Face" described the experiences of women whose faces were been burnt off in Islamabad and Baghdad.

Tamara Becher gave an extremely impassioned performance in which she raged against all the insensitive violations from "Vagina Motherf-----," like "dry wads of f----- cotton" and "thong underwear... that's the worst!"

Claire Walton's performance as a lesbian prostitute drew a standing ovation for her portrayal of various moans encountered in her profession such as "rockstar," "Irish Catholic" (forgive me, for-

give me...) and "triple orgasm."

No matter what the experience being related, every monologue touched upon a deep sense of openness and strength. The speakers provided everyone in the audience with genuine and universal emotions prompting laughter at many points and even tears at others. The performance ended with a reading of Eve Ensler's statement on the power of being a "Vagina Warrior," or in other words, "developing the spiritual muscle to enter and survive the grief that violence brings and, in that dangerous space of stunned unknowing, inviting the deeper wisdom."

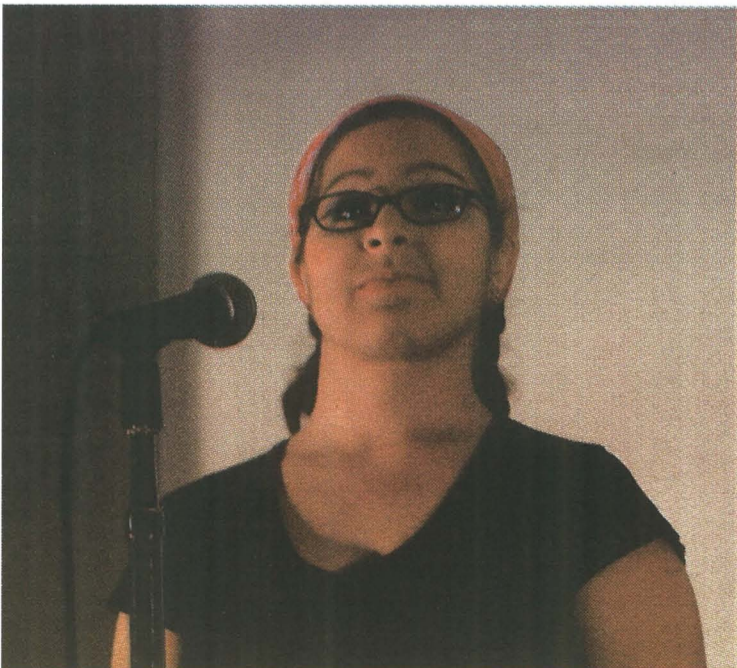
After the performance, a tearful Rachel Niemer rejoiced in the triumph of the many Vagina Warriors we have here at Caltech, so strongly represented by the women in the cast. She felt that men left with a better understanding of why women feel so strongly about fear and self-protection, "why a woman might feel the need to call a security escort late at night."

Niemer recalls how after past trips to see the show at other colleges, women remarked that they never thought *The Vagina Monologues* would ever happen at Caltech. This past Friday the 13th, we were especially lucky to finally see such a strong showing of female power and honesty.

Jessica Edwards tells how exciting it was "to watch the strength and community" formed by the show. In the elevator afterwards, a woman who had also seen the show in Beverly Hills told Edwards that she greatly preferred the Caltech version and found it much more "emotionally charged." Cast member Arthi Srinivasan was "really impressed by how well received" it was. In one word, freshman Leyan Lo described the production as "awesome!"

Niemer sees this culmination of her and other women's efforts as just a beginning. When asked if she sees V-Day continuing at Caltech, she confidently responds, "That's the plan!" In fact, Niemer would like to see the show "sell out Beckman next year." She also jokes about the need for "The Penis Dialogues" so that women can better understand the experiences that men face.

On Tuesday night at 8:30 pm, there will be a discussion about *The Vagina Monologues* open to all at the Caltech Women's Center. Additionally, there will be a viewing of the Lifetime Premiere of the documentary "Until the Violence Stops" which details the impact of V-Day around the world and exposes different forms of violence globally faced by women.



Undergrad Jessie Kneeland is one of the twenty-three campus women that performed in *The Vagina Monologues*.



D. Kortal/The California Tech

Pasadena Mayor Bill Boggard and Board of Education President Mike Babcock smile after introducing an initiative to make sixth grade available in the elementary schools.

City Council, Board of Education Discuss Lack of Classroom Space

By K. SZWAYKOWSKA

The Annual Joint Meeting of the Pasadena City Council and the Pasadena Board of Education took place on campus in Avery Dining Hall this Wednesday, Feb. 11. It will be of interest to anyone with children stowed away in kindergarten somewhere that the city of Pasadena is planning to implement an all-day kindergarten program to raise academic achievement for children at a young age.

Kids will have the benefit of getting more time with their teachers to work over their various and always unique educational shortcomings and, if they have working parents, they will be able to skip the hassle of coming

home for a rushed lunch and having to find something to do until the work-day ends. It seems, altogether, like a happy solution for parents, children and for teachers, who will get to spend more time every day doing what it is that teachers like best.

Another initiative announced made at the meeting was the implementation of sixth grade curriculum in elementary school. Students would have the choice of staying in elementary school to complete their sixth grade in a "more tight-knit school atmosphere", or going off to middle school "where electives and increased extracurricular activities are available". Choices, choices. The main merit of the proposal is

that it would give children who live far from any middle school the choice to put off commuting for a year longer.

A third initiative was "Utilizing Audubon"—this is a plan to open Audubon, a site currently used by Roosevelt School as interim housing, as a K-8 school. The idea is to balance school distribution with population; other parts of the Pasadena School District already have their own elementary and middle schools or, in the case of Sierra Madre, are expecting schools built. A similar arrangement in Northwest Pasadena/West Altadena, where the new school would be located, would mean less commuting and less hassle in the mornings for students in the area. The secret agenda here may be to get kids to sleep longer, in which case one can't help but approve of the idea. The facility has already gone through "Measure Y Upgrades" and will be used by Linda Vista School while that campus is renovated, so it appears

Collider to Confirm Superstring Theory

Continued from Page 1, Column 3

in 1971, when Pierre Ramond, Andre Neveu and Dr. Schwarz developed an improved string theory, which included fermions (protons and neutrons). Also surprising, one of the massless particles had the same characteristics as the graviton, the carrier of the

gravitational force.

In 1974, Joel Scherk and John Schwarz proposed string theory as a candidate for unifying the four fundamental forces. String theory had two benefits over more traditional "point-particle" theories. Strings gave finite results where conventional theories would yield infinities. Further, most of the dimensions would curl up and become unobservable, making the theory more consistent with observations. Still, most physicists remained uninterested.

Soon after, Dr. Schwarz began collaborating with Michael Green. Together, they developed superstring theory. The biggest surprise came in 1984, when they showed that superstring theory is free of anomalies in several cases. Soon, five competing theories were advanced. Yet, through space and strength dualities, the field was reduced to just two theories.

Soon, many advances were made in superstring theory. The most important problem was to describe the behavior of strings under high gravitational forces. Ed Witten and others showed in 1994 that an 11th dimension becomes important at high "g." It was also hypothesized that the five superstring theories were just different manifestations of a single, higher-order theory, called M-theory.

Soon after, "branes" were introduced. A group of these, called D-branes hold the endpoints of strings and it has been shown that the Standard Model of elementary particles can exist on D-branes, a major victory for particle physics.

Despite the many recent advances, Dr. Schwarz emphasized that a lot of work remains. People's understanding of the subject is fragmented and fundamental principles may be missing from different versions of the theory. The solution which best describes particle physics still needs to be formulated. Several vital questions also need to be answered. The exact role of supersymmetry in elementary particles needs to be determined and dark matter must be explained.

Fortunately, the Large Hadron Collider being built in Geneva, Switzerland promises to confirm significant parts of the theory. It will be able to create particle collisions with enough energy to form super symmetry partner particles. Studying their properties will help to develop the theory further. Professor Schwarz ended by stating that we would need to "develop new mathematical tools and concepts to solve these problems." Superstring theory holds the key to many unanswered questions and advancing it can only increase humanity's understanding of the Universe.

Survey Questions To Cover Several Topics

Continued from Page 1, Column 5

cess them over the summer, researching other college programs and working with students to create programs for the fall. Students will be able to access the survey data via the health educator's website, which should be operational this summer.

The ACHA recommends that the survey be taken every two years. Thus, longitudinal data can be used to see how the campus changes over time. In the next survey, Curtis will add questions more specific to Caltech; the focus of these questions will likely be decided with the help student committees.

Currently, the survey covers a broad range of issues, including actual and perceived drug use, alcohol, abuse, sex, depression and various ailments affecting academic achievement. Sample surveys are posted on the ACHA website. Students who have looked at the survey are concerned that it covers many topics that are irrelevant to campus life.

Olf agrees, "If you're like me, you'll be saying, 'Wow! No way would I be doing that. Who parties for 99 hours straight?'"

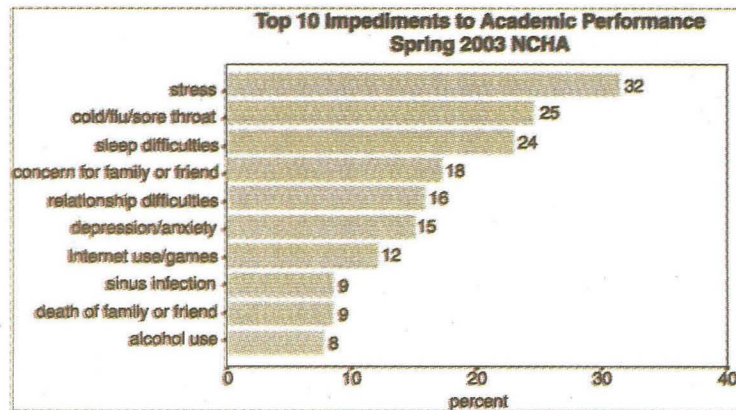
Undergraduates seem more concerned about issues relating

to social stresses and dating. Julia Ma, '06, says, "Tech relationships are just so different. This survey doesn't seem to cover our issues."

Other concerns surround the wording of the questions. For example, some questions refer to the amount of partying done in the last two weeks. Since undergraduate parties tend to cluster during the same time periods, taking the survey in early March after Apache, OPI and Drop Day, would yield drastically different results than taking it in late January when there are no parties. The survey has no way to negate false results from this data.

Curtis is not concerned. She wants the broadest data set first, focusing on more relevant issues in the next survey. On later surveys, she hopes to investigate environmental factors, such as availability of healthy food on campus and work/life issues for graduate students, such as balancing family, leadership roles and lab work.

The ACHA notes stress, cold/flu symptoms and sleep difficulties are the top three impediments to academic performance. Where will Caltech students fit?



Courtesy of www.acha.org

This chart shows responses to a survey asking about causes of poor academic performance.

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