



The California Tech

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JANUARY 10, 2005

Campus Celebrates Einstein Centennial

By SONIA TIKOO

A century ago, humanity's perception of space and time was altered forever by the work of a bright young physicist who had just completed his doctorate at the University of Zürich. The year was 1905; this fresh scientific mind had just published three earth-shattering papers on Brownian motion, the photoelectric effect and special relativity. This year, Caltech honors the centennial of these great accomplishments, attained by none other than Dr. Albert Einstein.

Approximately ten contributing Caltech researchers and staff along with several student workers are currently dedicating themselves to compiling documents, letters, newspaper clippings and photographs associated with Einstein, his life and his historic stays at Caltech during the winter terms of 1931, 1932 and 1933. Their efforts have culminated into the Einstein Papers Project, an organization with the goal of preserving the memory of the renowned physicist through publishing his writings in a series called *The Collected Papers of Albert Einstein*.

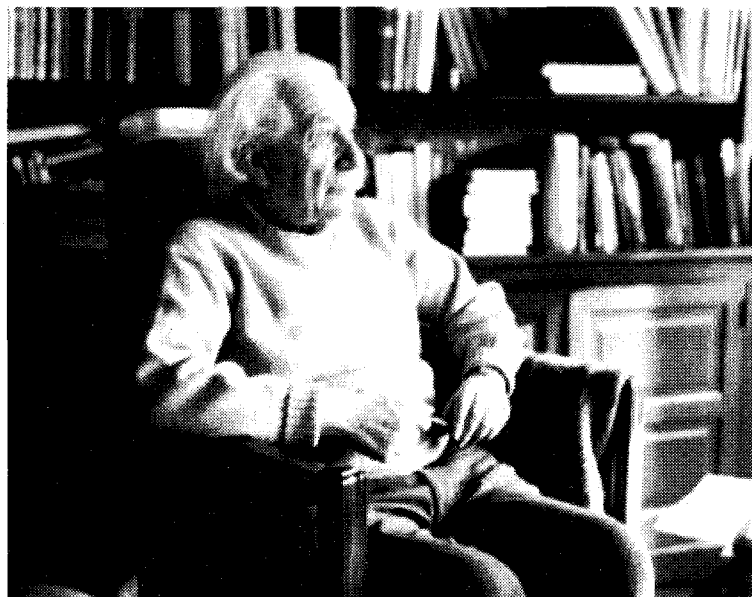
As the hundred year mark of Einstein's great 1905 achievements approaches, several associ-

ated with the project decided to create a historical exhibit regarding Einstein's work, relationship to Caltech and his trips to Southern California, as well as set up the four-part Distinguished Centennial Lecture Series, which will take place between March and September of this year.

Dr. Diana Kormos Buchwald, director and general project editor, described the Centennial display, which is tentatively scheduled to open March 14, Einstein's birthday. "It will be a movable exhibition, built as three large triangular columns. Each column has a theme, therefore making a total of nine panels. We hope to have it located at various points of interest on campus...the student center, bookstore, Dabney Hall of Humanities and in front of Beckman Auditorium before and during each of the four talks. These are all preliminary sites we're considering."

A great portion of the pictures, articles and information that will be displayed on the portable exhibit were collected by Caltech senior Benjamin Aronin, who has been working with the Einstein Papers Project for some time. He went into Caltech press archives and collected all articles,

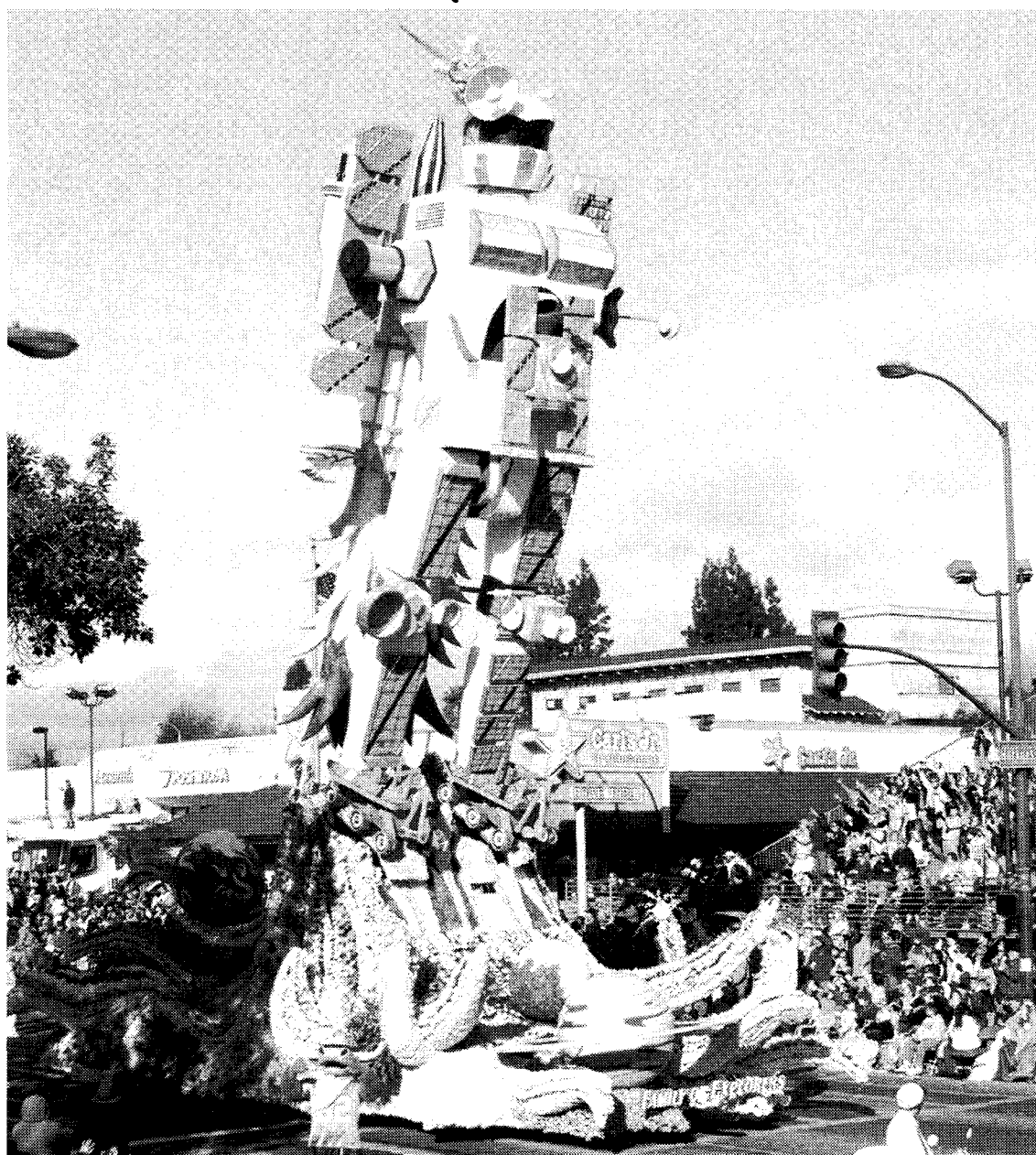
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Courtesy of www.einstein-website.de

Dr. Albert Einstein relaxes in his Princeton study where he spent the last 22 years of his life.

'Family of Explorers' Towers Over New Year's Day Rose Parade Floats



Courtesy of J. Chu

The Caltech-JPL float, titled "Family of Explorers" lumbers down Colorado Blvd. during this year's Rose Parade. The impressive, 50 ft. tall float won the Crown City Innovation award.

Half-year Chandler Renovation Will Expand, Upgrade Services

By JON MALMAUD

While the South House renovations are sure to bring up emotions of excitement and dread for most South House residents, the ongoing Chandler renovation remains cloaked in dark mystery and fails to elicit much of a response from

anybody. This is not as it should be—the renovation promises many new benefits to Techers and will hopefully propel students' lunch experience to equal their academic one, in a good way.

Unlike many Caltech expenditures, the Chandler renovation is entirely for the benefit of us undergrads. The South House residents will need someplace to dine while their homes are rebuilt. The better, faster, stronger Chandler will be expanding the seating area to include the outdoor patio area now occupied by grad students consuming expensive coffee drinks. Two houses will share the cafeteria interior, separated by a partition both physical and perhaps social.

Many staunch conservatives fear that their house dining traditions will slowly vanish during the migration. According to Andre Mallie, director of the illustrious Caltech dining, "you can have your house dinner with your house traditions." On hearing this, I immediately worried about the condition of the sparkling new structures after a few nights of Blacker shenanigans. "Can we put some butter on the ceiling?" Andre asked. Solution: "No."

Up until March, students will have still have full access to Chandler services excepting the

forementioned patio. The available entrances will now be limited to the south and east ones plus the C-store. In the post-Antarctic months of April and May Chandler will be completely shut down and replaced by the north kitchen. Pre-Antarctic September will bring about the glorious reopening of Chandler, full of wondrous marvels to dazzle the eye and play upon the palette. Overall, then, we're looking at a half-year of construction.

The dish room, whose equipment currently has the reliability of ITS wireless, will be completely razed and rebuilt elsewhere. Hopefully this will put an end to forkless-Fridays forever. The cashier registers will be pushed further back away from the food vendors, allowing more room for hungry students to jostle each other. The dungeon-like atmosphere currently shared only with the tunnels and physics lecture hall will be relieved with brilliant new lights filling every corner of the cafeteria with burning radiance.

The other additions to Chandler were formed by massive coagulations of undergrads, grads and staff. Dining could have saved itself some trouble, since the result was inevitable: more Asian.

Continued on Page 2, Column 1

CBS Thriller NUMB3RS Special Premiere Reflects Institute Roots

By TAMMY MA

Every once in a while, our humble university gets a cameo on the big screen. Perhaps they want to highlight our eccentricities, like in *Real Genius*, or use it as a beautiful backdrop, as in *Legally Blonde* or *The Wedding Planner*.

But Caltech will get a new chance to shine in CBS's latest series *NUMB3RS*, loosely based on a Caltech math professor that helps his FBI agent brother solve crimes in Los Angeles with the use of mathematics.

The series, from executive producers Ridley Scott and Tony Scott, will feature actor Rob Morrow as FBI Special Agent Don Eppes and his mathematical genius brother

Charlie (played by David Krumholtz). Don finds that Charlie's math can bring new and different insight to his investigative work. Charlie's mathematical training and sharp mind allow him to see problems and mysteries from different angles and he is able to help the FBI through direct mathematical application—such as developing an equation that predicts the home base of a serial killer, using game theory to analyze conflicting confessions, devising a formula that follows the trail of small counterfeit bills through a community and tracking the source and spread of a contagious respiratory illness.

In each episode, Charlie will take the mathematical ideas he used to solve the crimes and explain them

in terms readily understandable to viewers. Inspired by real events, every episode of *NUMB3RS* will aim to demonstrate the beauty and power of math and the role math it plays in explaining the world.

A special advance preview screening of the first episode will occur here on campus tonight, Monday, January 10 at 8:00 pm at Beckman Auditorium. The screening will be followed by a panel discussion with panel moderator Kevin Frazier, weekend anchor of *Entertainment Tonight*, cast members Rob Morrow and David Krumholtz, show creators and co-executive producers Cheryl Heuton and Nick Falacci, as well as our own Caltech math professor

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Producers, Cast Panel Discussion After Show

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Gary Lorden, math consultant for the series.

Although Caltech is not mentioned by name in the show, the creators have modeled the "university" in Caltech's likeness, developing characters loosely based on a Caltech professor and students. Paramount filmed portions of the series on the Caltech campus.

Dr. Gary Lorden, Professor of Mathematics and Executive Officer for Mathematics at Caltech, serves as a math consultant and technical advisor for NUMB3RS. Commenting on the show, Dr. Lorden said, "There is more true stuff in these episodes [of NUMB3RS] than any other show. Of course it's not a complete story of what a mathematician would do...the story may not all be coherent from a mathematical standpoint. As a TV show, it will only give glimpses of the math, it won't be a complete picture of the logically related steps. But all the equations, the math shown is true stuff."

In addition, Dr. Lorden cheerfully remarked that working on NUMB3RS "has been a lot of fun. The actors, the producers, the film crew, just everybody is a fan of math and science. They treat me like some kind of guru and Charlie [in the show] like a god!"

In an interview with David Krumholtz, who plays Charlie, the math intellect on the series, Krumholtz said he plays a 29-year old professor with tenure.

"The spirit of Charlie is based around Richard Feynman, who also happens to be from my neighborhood of Queens, New York. Feynman was quite a character—he was this intense academia guy, but was also mischievous. To prepare for my role, I listened to Feyn-

man's lost lectures."

In addition, Krumholtz spent the summer months wandering around campus and snooping around the dorms to get a feeling for the type of students and faculty that call Caltech theirs.

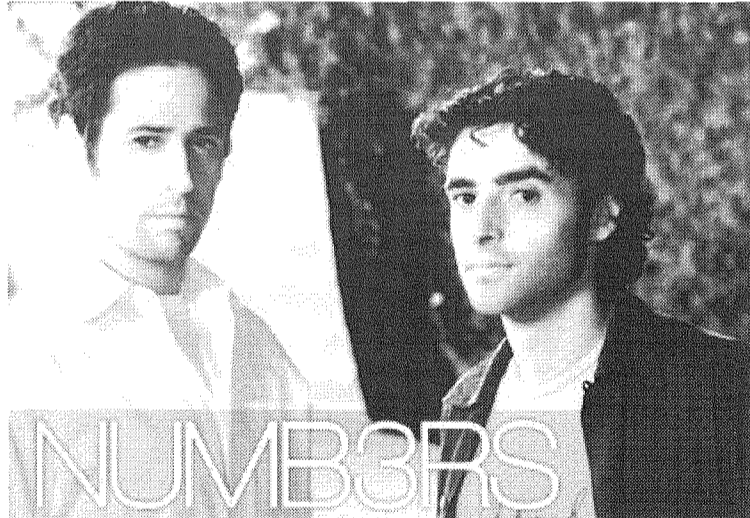
"I spent a lot of time standing outside of classrooms just watching the professors teach their classes...and there are a couple of really interesting professors."

On the subject of playing a "mathematical genius," Krumholtz said, "it's unlike anything done before. The character of the mathematician is not used often by Hollywood...Before, it just wasn't possible to do a show of this type because we didn't have the technology to convey the complexities of the math. However, now with the visual effects, we can represent math in a different way that allows the audience to make the connections on their own."

"The math is shown in broad strokes. We just wanted to convey a sense of the true wonder of mathematics, the religion, the art of it. People will leave each episode enlightened. It'll blow people's minds."

CBS first contacted Caltech with the idea for this series in early July and did much of their filming during the summer months. Featured in the pilot episode is Professor Nick Scoville's office, as well as campus scenery. Thus far, there are 8-12 episodes of NUMB3RS planned, which comes to CBS as a midseason replacement.

NUMB3RS will premiere on Sunday, January 23rd at 10:00 pm, immediately following the AFC Championship Game and will air in its regular slot beginning Friday, January 28th at 10:00 pm.



Courtesy of www.cbs.com

Improved Chandler To Feature Asian Cuisine

Continued from Page 1, Column 5

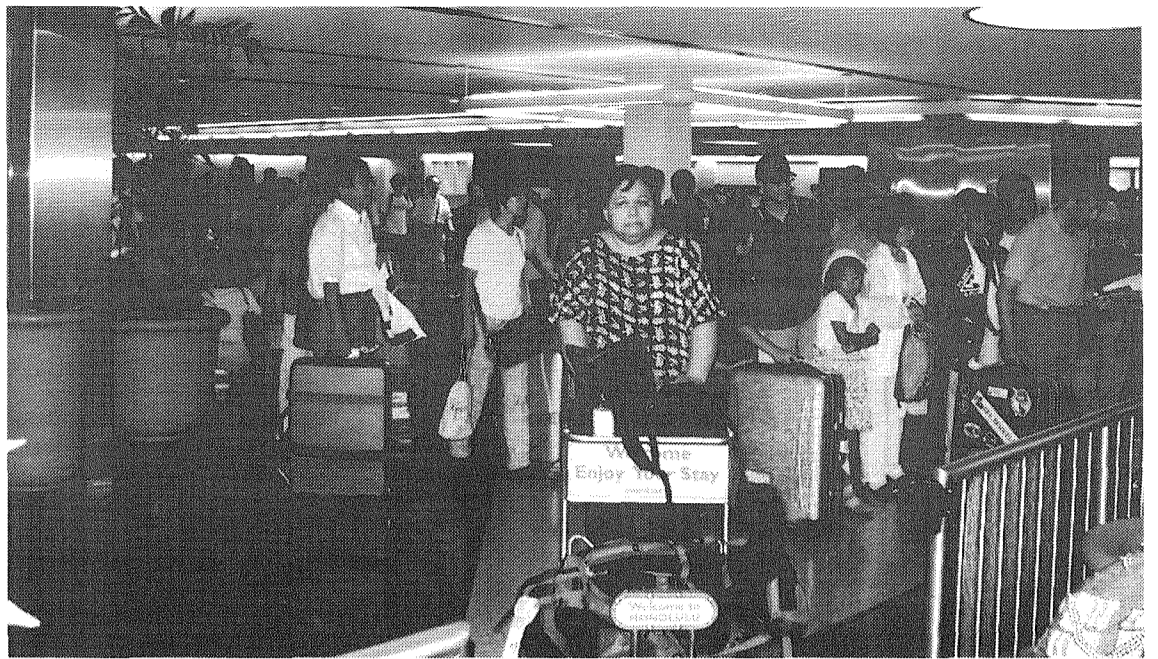
"More Asian food services was the number one choice" of the committees. Expect to see more efficient teriyaki production and an expanded Mongolian barbecue, which will now feature meat and a vegetarian line plus a new and improved grilling machine.

Other features of this Chandler re-release include a to-go cooking station placed right in front of the registers, well stocked with hot entrees from the various vendors. "People can grab-and-go without penetrating," says Andre without any overtones. Hopefully this will mean faster food throughout for all Chandler patrons.

Once the south kitchens are reconstructed (assuming humans haven't evolved beyond the need for mere organic nutrients by that point), expect to find improve-

ments across the board. The pizza pavilion, currently causing congestion by its location at the end of the buffet line, will be moved to a more isolated area. More dramatically, the food preparation and food pick-up areas will be completed isolated to avoid any waiter entanglements. Two staff members have received serious and "expensive" injuries due to the current inefficiency of the kitchen layout.

More importantly, there will now be hotplates. That's right, prepared food will now be placed on hotplates so waiters can bring in piping-hot dishes while allowing houses to hold buffets without undue chaos. Will the north houses receive similar improvement. Sure, "if Caltech gets the funding."



Courtesy of www.state.hi.us

New visa restrictions have made it difficult to enter the country, causing long lines in customs and delays in receiving visas. Students, families, and visiting scholars have had trouble.

State Department Rules Hamper Students', Visitors' Visa Requests

By ZHIYUN GUAN

Recent restrictions have made obtaining a visa more difficult for international students and Caltech is extending help to those caught in this situation. Since the terrorist attacks of September 11, 2001, heightened security concerns have led to more intensive scrutiny for visa applicants, sometimes resulting in delay or denial. "The restrictions have been accumulating since 9/11," said Marjory Gooding, director of Caltech International Student Programs. Technology-related restrictions, in particular, are impacting international students at Caltech.

Increased attention to the Technology Alert List, or TAL, is one source of complications for international students. The TAL, compiled by the Department of State, is a list of technologies that may be put to dangerous use, or are otherwise sensitive. Students and other visa applicants with a background in one of these areas will often need to undergo a Visa Mantis review. Many areas of study at Caltech, such as chemical engineering and biotechnology, are listed on the TAL. "It's so broadly drawn that there's almost nobody at Caltech that would be exempt from it," Gooding said.

When a student is unable to obtain a visa, the International Students Programs step in to help. If the issue is technology-related, "we try to explain what the field of study is all about," Gooding said. A procedure is in place with Congressman Adam Schiff of the 29th District to help these students obtain visas.

"Each time we have someone stuck at a consulate overseas, we have to wait a certain amount of time to let the process operate.

Then, at a certain point, we ask the Congressman to file a Congressional inquiry," Gooding explains. Schiff and his staff have been "extremely responsive" and a great help, she said.

While there have been about fifty cases of visa problems in the past three years, failures for students to get a visa have been rare, according to Gooding. Most of these cases were due to factors other than technology concerns. For instance, applicants must prove that they have no intent to immigrate to the United States. It can be difficult for students to show they have compelling ties to their country of birth, Gooding said, which sometimes leads to a denial.

Sophomore Xiaoke Zheng, from China, experienced this arduous process firsthand. He was admitted by Caltech in the summer of 2002. After a delay of one and a half years, during which he applied for a visa seven times (and was denied for six), Zheng was finally able to come to the U.S. in 2004. "The reason that they refused me," he explained, "was that they thought I had immigration tendencies." Continuing to apply for a visa after each refusal, Zheng tried to maintain an optimistic attitude. "I knew that I may be finally refused, but as long as I have a chance, I'll try," he said. "I'd just go to the embassy and try my luck."

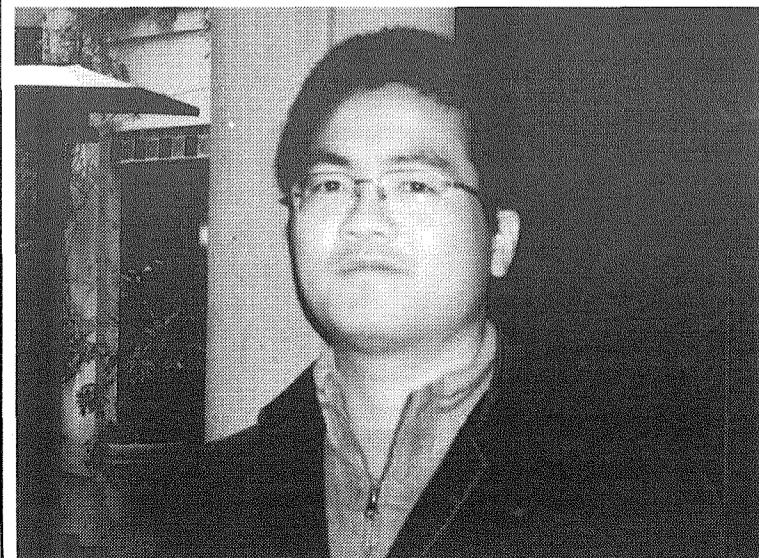
The repeated denials were stressful for both Zheng and his family. "I did bring a lot of pressure on my parents," he recalled. "They were worried about my future." Faced with uncertainty, Zheng had to consider alternate possibilities in his education and career. "I thought a lot about my life," he said.

While he tried to obtain a visa, Zheng received help from Caltech. He first sought help from the ISP office in the summer of 2002, after three denied visa applications. "Every document sent to me was finally processed" by an ISP advisor, who also sent letters to the embassy on his behalf, Zheng remembered. In the meantime, Caltech deferred his admission and renewed his financial aid. "I should be very grateful to Caltech," Zheng concluded.

In addition to incoming students like Zheng, many others in the Caltech community are affected by visa delays or denials. Scholars visiting to consult, for instance, can be hampered by delays, according to Gooding. "If someone is coming in for a meeting that's going to take place on February 1st and they don't get their visa until February 16th, then there's no point in their coming," she described as an example.

Currently, visa delays usually take about two months, she said. In order to make the process more expeditious, "the administration has pushed pretty hard nationally," Gooding said. The National Academy of Sciences, with which Caltech is involved, also advocates resolving visa problems in matters of international scientific collaboration.

Currently, visa restrictions continue to have a far-reaching impact on Caltech. "It's more than students, more than postdocs, more than these [visiting] scholars" who are affected, Gooding concluded. "It's the whole international community."



L. Tran/The California Tech

Sophomore Xiaoke Zheng had his visa applications denied six times for being an immigration risk before finally being approved.

The California Tech

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The Seasons so Far: Men's & Women's BBall Making Improvements, Swim Gearing Up

By MIKE RUPP

Caltech Athletics Weekly Roundup
Monday, January 3, 2005

Men's Basketball: Improvements across the board

The Men's Basketball team has shown consistent improvement in virtually all aspects of their game this season. Scoring has increased by 30 percent over last season, backed by the return of Junior Jordan Carlson, who leads the team with a 10.1 points per game average, and the emergence of newcomer Freshman Bryan Hires, averaging 8.1 points per game.

The more aggressive offense has allowed the squad to get to the line much more often, with free throw attempts up 64 percent. The defense has tightened up as well, with opponent scoring down 20 percent, largely as a result of the interior defense and shot-blocking of Carlson and Hires and the perimeter defense of returning Juniors Scott Davies and team captain Day Ivy.

Freshman Guard Paxon Frady has helped the ball-handling improve. Junior Tyler Drake and Freshman Nick Goeden have giv-

en the team two key contributors off the bench.

Over the winter break, the team hosted two successful Holiday Tournaments that featured talented teams from all over the country. On Sunday, the team played one of its most competitive games of the season against Dominican University of Illinois, coming within four points at halftime before a late Dominican surge led to an 11 point Caltech loss.

The team will look to continue its improvements at its next game, this Wednesday at home against Colorado College. The game begins at 7:30 PM.

Swimming & Diving: Gearing up for the main stretch

The Swimming & Diving team resumes their season schedule this Saturday at home in a conference meet against Pomona-Pitzer. This will begin the busiest portion of the team's schedule, as they'll compete at four different meets in eight days, including conference opponents Cal Lutheran, Whittier and Claremont Mudd-Scripps.

This year's team features a number of talented veterans and newcomers enjoying strong seasons. Among others, Senior Beth Dorman is setting personal best

times in the 100 Yard Freestyle, and Freshman Tim Curran is already a danger to the school's record time in the 100 Yard Backstroke. The team should build up a lot of momentum for the conference championships Feb. 17-19.

Women's Basketball: Freshmen form core of team's future

The Women's Basketball team, led by a trio of freshmen, has taken a huge step forward towards becoming a competitive program this season.

Freshmen Jessica Roberts, Lindsay King and Rene Davis are each ranked 1-2-3 on the team in scoring. That boost has helped the team's overall scoring improve a whopping 126 percent over last season's average, and the team's field goal shooting has improved by 43 percent. With players attacking the basket more aggressively, free-throw attempts are up 60 percent. And just a third of the way into the season, the team has nearly tripled the total number of three-point field goals made for all of last year.

The team has improved on defense as well. Opponents' field goal shooting has fallen 14 percent, and overall opponent scoring has fallen nine percent. Steals

are up 56 percent with King and Davis accounting for 55 percent of the team's total. The team is recording more than five times the number of blocks they were averaging over last year, led by King's average on one block per game. The team's ball-handling has improved, with turnovers down 31 percent, and assists per game have more than tripled.

The team faces a busy week with home games on Tuesday, Thursday and Friday, beginning with Tuesday night's game against New Jersey City University. After this Friday's game against Southwestern College who Caltech defeated earlier this season, the team will begin its 14 game SCIAC Conference schedule.

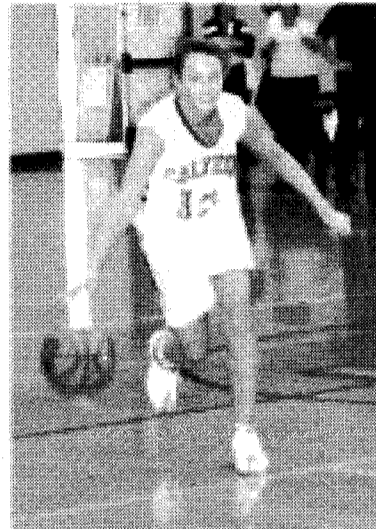
The Athlete of the Week feature will return next week.

Upcoming Home Events

Swimming / Diving: Whitman, 1/11, 3:30 pm.

Men's Basketball: Claremont Mudd-Scripps, 1/15, 7:30 pm.

Women's Basketball: Claremont Mudd-Scripps, 1/15, 5:00 pm.



courtesy of www.athletics.caltech.edu
Junior Day Ivy (top) and Freshman Lindsay King (bottom) have both led their teams to improvements this season.

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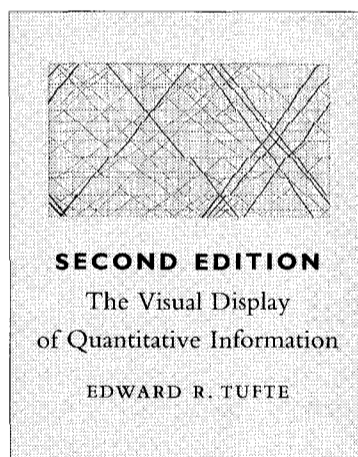
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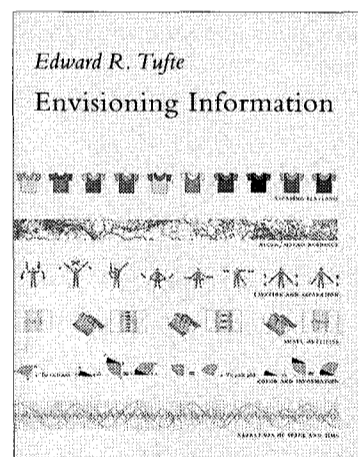
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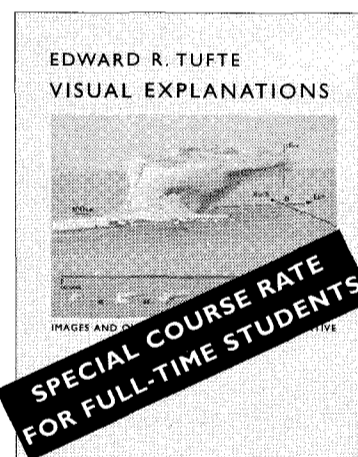
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- business, scientific, legal, financial presentations
- animation and scientific visualizations
- effective presentations: on paper and in person
- design of computer interfaces and manuals

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More Taxes, Anyone? A Look at America's Charitable Acts

By SIMON QUE

The recent natural disaster in Southeast Asia has become politicized before you can say tsunami. One United Nations official said in the days following the tragedy:

"It is beyond me why are we so stingy, really... Politicians do not understand their own populations, because all the populations, in the United States, in the European Union, in Norway which is number one in the world, we want to give more...as taxpayers. People say we should give what we give now or more. [Politicians] believe that they are really burdening the taxpayers too much, and the taxpayers want to give less. It's not true. They want to give more."

According to some sources, the official did acknowledge that the governments of many countries, including the United States, have given out a lot of foreign aid for humanitarian purposes, especially for the recent tsunami. He just thought they should be giving out more than they already do, and not just during crises.

He uses the word "stingy" to describe the apparent lack of generosity of Western governments. But true generosity isn't measured

by how much money a government gives. The government as we know it is just a faceless, impersonal bureaucracy. It gives money away because it is expected to do so by law, not out of the kindness of its heart, as one would describe an individual. Giving away mon-

ey may be an act of generosity but it doesn't make the government a generous entity. The same can be said of taxpayers, the real source of all that money. Most, if not all, taxpayers pay their taxes not because they are generous but because they are required to by law, and they obey the law for whatever reason. The taxpayers are being obedient, not generous, when they pay their taxes. It is nonsense to describe governments and taxpayers as "generous" or "stingy" for the amount of money they give to foreign aid and to taxes.

True generosity is demonstrated by voluntary contributions. Take, for instance, the three tables that were around Caltech last week collecting donations for the tsunami victims. That is where one can find true generosity

in action. And this is all over the United States. In fact, Americans as a whole have been very generous in their donations to overseas humanitarian crises, and for aid in general. American private aid for the tsunami victims have shot into the range of hundreds



An aerial view shows the flattened town of Meulaboh in Aceh province, Indonesia. The earthquake and tsunami in Southeast Asia has claimed over 140,000 lives, and current relief workers are focused on preventing the spread of disease.

courtesy of www.cnn.com

of millions of dollars. The Giving USA Foundation says that Americans gave \$240 billion to charity in 2003. According to the former head of the organization Empower America, 53 percent of American households give to charity in 1999, compared to less than half of their German and French counterparts.

So why doesn't the UN official acknowledge this? His silence on the generosity of Americans, while speaking in favor of more official foreign aid, seems to betray a mindset that recognizes only government aid as being valid and merit-worthy. He seems to think that foreign aid is superior to voluntary donations even though it is done by legal mandate rather than by inner generosity.

Meanwhile, he calls for more taxes as the proper solution. He even goes as far as to say that people "want to give more...as taxpayers." Oh, really? I don't know about the people of Western Europe, but I doubt Americans

want more taxes. On the website of the National Taxpayers Union, an organization that fights for less taxes and government spending, one can find links to hundreds of taxpayer organizations all over the United States. That doesn't sound like a citizenry that wishes to be taxed more heavily.

The official's comment about taxpayers also makes no logical sense. There is no reason for Americans to want to be taxed more heavily for the purpose of giving more foreign aid. Few, if any, want to pay taxes for the sake of paying taxes, because taxation is just a means to an end--to fund the activities of the government. If taxpayers really "want to give more" to humanitarian aid, all they would have to do is give to the numerous private charity organizations already in existence, just as many are doing already. There would be no reason to bring in the federal government to collect more taxes for foreign aid if people were willing to voluntarily

donate it in the first place. (Duh. Oops, did this UN official miss the obvious?)

UN Secretary-General Kofi Annan is another prominent member of the UN who has expressed the belief that the US government should dole out more foreign aid. In May 2000, he gave a commencement address at Notre Dame University in which he told the audience, "It is particularly shameful that the United States, the most prosperous and successful country in the history of the world, should be one of the least generous in terms of the share of its gross national product it devotes to helping the world's poor." He went on to encourage the graduates to advocate changes in public policy for more foreign aid. Again, no mention of how much private aid Americans already give out.

Fortunately, there has been much outcry in the United States in response to the official's comment. One member of Congress even issued a warning on his website pointing out that "his attitude toward your money is typical of globalist bureaucrats, who ultimately view the UN as a means for transferring wealth from America to other nations." The remarks of the two aforementioned UN officials are evidence of this government-centered view held by the UN.

Of course, more foreign aid would be at the expense of taxpayers who already give much to private charity. Though for some power-hungry elites, it seems that private charity isn't good enough compared to government taxation and redistribution. Americans should reject this statist vision and say no to the taxmongers by continuing to show what voluntary donations can accomplish in helping the needy, both at home and abroad.

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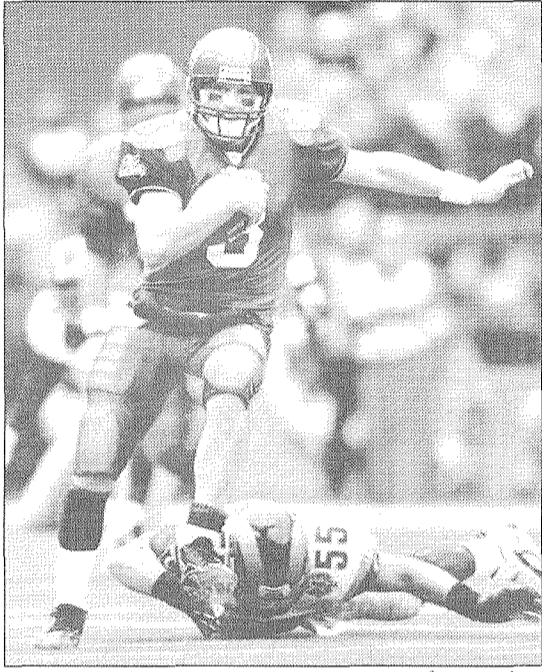
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NFL Playoff Picks and Predicted Play-by-Plays

By HAMILTON FALK

I'd like to warn everyone coming into this that I have no intention of being funny in this article. I intend to spell out some interesting information about this year's NFL playoffs, and do it in a way that is interesting and useful to those who follow football, and to those that don't.

That being said, I am an intrinsically humorous person, or I like to joke that I am at least, and I was lying when I said I wouldn't try to make this funny. I just don't plan to try as hard as I usually do.



Seattle Seahawks quarterback Matt Hasselback breaks a tackle for a 17-yard gain run last Saturday in the game against the St. Louis Rams.

This year I'm going to make a bold prediction about the playoffs: they won't be as boring as everyone seems to think. This will be despite the best efforts of the NFC, which will manage for the first time ever¹ to have no games in which the favorite loses. The Green Bay Packers will beat the Minnesota Vikings in a game that will feature Minnesota wide receiver Randy Moss catching two TDs but then sitting down and barely jogging for most of the second half, allowing Packer Quarterback Brett Favre (rumored to be able to throw a football so hard it goes back in time²) to stage a late drive for the winning field goal. He will do this by handing off the ball almost every down, and having Green Bay WR Jevon Walker knock a pick out of the Minnesota free safety's hands.

The Seattle Seahawks will beat the St. Louis Rams, but no one will care, even though Rams Coach Mike Martz will bring out his new offense, which will neglect both the running and passing game, relying mostly on quick kick punts and fumbling forward and then attempting to recover the loose ball.

In the divisional playoff games the Philadelphia Eagles will smother the Seahawks, who will declare after winning the coin flip "we want the ball, and we're gonna score" and then proceed to not do so, getting completely shut out on offense, and barely scoring once on special teams in the fourth quarter. Critics will point out that the Eagles offense cannot win games without WR Terrell Owens, and then go back to praising Bret Favre and his incredible super powers.

This will be followed by Favre throwing four interceptions and fumbling as the Atlanta Falcons defeat Green Bay despite Atlanta QB Mike Vick throwing for only 170 yards and two interceptions,

and being held to less than 15 yards rushing. The NFC championship will at least be an interesting game, with the Eagles pulling out a win in the last two minutes on an interception returned for a TD.

Not a very exciting three weeks in the NFC, the most interesting thing that will come out of it will be that by the end three coaches in the NFC West will lose their jobs, despite two of them making the playoffs, and one of them winning a playoff game. Defense will make the difference between contenders and pretenders, with the Falcons beating Green Bay with turnovers and the Eagles allowing less than 10 points in both games, despite playing two of the better offenses in the NFC.

The AFC will manage to have some more surprises. While most of the experts are assuming a Steelers-Patriots championship game, most people I interviewed thought that one of both of those teams wouldn't make that game. Could a Chargers-Colts game be in store? It'd certainly be more fun. The first round won't feature any upsets, but at least will have some fun games. The San Diego Chargers will dominate the New York Jets, their excellent run defense stopping the league's oldest leading rusher Running Back Curtis Martin from gaining crucial yards, and forcing Jets QB Chad Pennington to throw with his not fully healed shoulder. The Jets won't be able to keep Chargers RB LaDainian Tomlinson from showing critics how much he deserved a pro-bowl place last year, and Drew Brees will have a great game, in which his motivation for a bigger contract (he'll be a free agent after this season) may play a part.

The Denver Broncos will scare

the Indianapolis Colts, with Colts QB Peyton Manning starting slowly, but eventually living up to his record breaking season by throwing three TDs in the second half to win the game. Broncos QB Jake Plummer will play like a real professional for most of the game, only to give the game back to Manning in the final minutes with a pass bounced off the head of Colts Defensive End Dwight Freeney and into the hands of one of the Indy Line Backers.

The Colts will get revenge for their week one loss to the New England Patriots when the Divisional round, with Colts RB Edgerin James rushing for nearly 200 yards against a schematically sound defense, but one weakened by injuries and destroyed by Manning's play fake. Though the game is played in New England, unseasonably warm weather will finish off the Patriots advantage at home (which is already overrated as one person I talked to pointed out). Pats QB Tom Brady will have a chance to keep the game close before half time by receiving the ball around midfield, but will only manage to get the ball just in range for a very long field goal and Kicker Adam Vinitari's trusty leg won't be able to hit the 49 yarder.

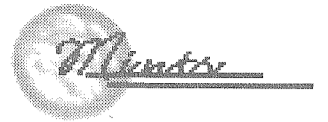
The Pittsburgh Steelers are clearly a better team than the Chargers, but that game will come down to the end as the Chargers run defense again proves heroic, especially with Steelers RB Jerome Bettis injuring his ribs in the first quarter. Unfortunately for the Chargers, Tight End Antonio Gate will be ruled as not having come down with two feet in bounds as time expires for the winning TD, after coach Marty Schottenheimer decides to go for the win instead of the tie at the end of the four yard line with nine seconds left. The Steelers offense will do just enough to get by, attacking the flats where the Chargers D is weak. The Championship game will be played in Pittsburgh with snow falling, just the sort of environment the Colts are supposed to play their worse in. And they will look awful, at first, but as the game wears on Peyton will begin picking apart the Steelers secondary as only he can do, and the Colts pass rush will take ad-

vantage of a Pittsburgh offensive line that focuses too much on pass blocking and finish the game with seven sacks and a good number of hurries. In the end, the game will come down to Pittsburgh's Rookie QB Ben Roethlisberger, who will fail to score in the closing minutes, allowing Manning to finish his historic season with a trip to the Super Bowl.

At this point the question of the large talent difference comes into play. This year the National Football Conference has been generally inferior to the American one, and very few experts think an NFC Super Bowl victory is likely. I asked some NFL fans weather they thought the NFC had a chance against an AFC opponent. One answered "Yes, I think it [the NFC team] does have a chance. Oh wait, they don't, I'm just lying." Another told me the NFC stood for "No [expletive that beings with F] Chance." He also mentioned "Let me tell you what's better than the NFC. KFC." I happen to disagree, and it might just be because I'm a devout Eagles fan. It also might be because I picked the Colts to be the AFC representative and they match up less well with the Eagles than either Pittsburgh or New England do. But the Super Bowl will go to the Eagles, with a close game until half time, but with WR Owens back the Colts D won't be able to cover all of QB Donovan McNabb's targets, and a stifling secondary and a very large defensive tackle nicknamed "the Hamburglar"³ will ruin Manning's day. At long last the Philadelphia Eagles will win a Super Bowl.

Feel free to use this for your own betting purposes. I take no responsibility if you lose money, but I'm perfectly willing to have you send me a portion of your profits. I'm just a good person.

- (1) For all I know, sometimes I just make stuff up as I go.
- (2) This is how he killed Hitler.
- (3) I'm not making that up; they really call Hollis Thomas the Hamburglar.



Caltech Ballroom Dance Club
The Caltech Ballroom Dance Club is now getting its Winter term classes underway, starting with the Hustle, taught by professional instructor Gary Ulaner. This class includes instruction on Mondays from 8-9:30 pm in Winnett Lounge on January 3rd, 10th, 24th and 31st, as well as two outings to the Hacienda dance club to put your moves into practice on January 12th and February 2nd! The cost for Caltech students is \$6 per class or \$20 for the series, \$8 per class and \$28 for the series for non-students. No previous experience or partner required!

We are also excited to announce the team classes for this term, aimed at those who are interested in competing or just polishing their ballroom technique. Two kinds of ballroom team classes are taught; one class concentrates on technique for the five standard dances, which include waltz, tango, foxtrot, quickstep and viennese waltz; the other class concentrates on the five latin dances: rumba, samba, cha cha, jive and paso doble. For those who are new to ballroom dance we recommend the beginner class; for dancers who have more experience we offer the intermediate classes. The cost for the standard or latin class series at either the beginner or intermediate level is \$25 for Caltech students and \$40 non-students.

The beginner team classes will be taught by our own Derrick Bass in Winnett Lounge for eight weeks on Thursdays beginning January 13th and running through March 3rd. The class for the standard dances will run from 8-9:30 pm and the latin class will follow from 9:30-11 pm. No partner necessary!

The intermediate team classes are taught by Tudor Stoenescu and Gwyneth Card on Sundays for eight weeks, running from January 9th through February 27th. Instruction for the class on the standard dances will run from 2 - 3 pm

Continued on Page 6, Column 1

Gregg Bissonnette

(world famous drummer)

in Clinic and Concert

Gregg is a world famous drummer who has played with everyone on the planet (Santana, Maynard, Ringo, David Lee Roth, etc.)

>CLINIC

Thursday, January 13th, 6:30 PM
Ramo Auditorium, Caltech

Sponsors: Zildjian cymbals
Remo drumheads
Vic Firth sticks
Mapex drums
LP percussion
Shure mics

>CONCERT

With the Caltech Jazz Bands
Saturday, January 22, 8:00 PM
Beckman Auditorium, Caltech

Both the clinic and the concert are FREE and open to the public. No tickets required.

For more information, please call the Caltech Ticket Office at (626) 395-4652, or visit the web site at: <http://events.caltech.edu/index.html>

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WALK IN DRIVE THROUGH PARKING AVAILABLE PLEASE CALL FOR CATERING AND FUNDRAISING



Continued from Page 5, Column 5

and the latin class follows from 3 - 4 pm. As always no partner is necessary.

Our term party is coming soon on January 28th in Avery Dining Hall! We'll be dancing the night away starting at 8:30pm and as always refreshments and a hoppin' mix of the best ballroom dance music will be served up by your own Ballroom Dance Club... the cost is FREE and we welcome all to come join us!

Caltech Public Events Coming Soon ...

Screening of Chinatown
Tue, Jan 18, 8pm, free

John McCutcheon and
The Chapin Sisters
Fri, Jan 21, 8pm, \$15

Caltech Jazz Bands
Sat, Jan 22, 8pm, free

The Shuttle Fleet
and Space Access
Wed, Jan 26, 8pm, free

Wu Man, pipa
Fri, Jan 28, 8pm
\$25, 21, 17

NUMB3RS

Special Preview Screening of
CBS's New Drama

Please join us on Monday, January 10th at 8:00 p.m. in Beckman Auditorium for a sneak peek screening of the new CBS drama NUMB3RS. In NUMB3RS, Special Agent Don Eppes (played by Rob Morrow of Northern Exposure fame) recruits his mathematical genius brother (David Krumholtz, from The Lyon's Den and The Trouble with Normal) to help the FBI solve crimes in Los Angeles. Inspired by actual events, Numbers depicts how the confluence of police work and mathematics provides unexpected revelations and answers to the most perplexing criminal questions.

Caltech is not mentioned by name in the show, but the creators have modeled the university in the show on Caltech, developing characters loosely based on a Caltech professor and students. Portions of the series have been filmed on the Caltech campus.

The free screening will be followed by a panel discussion with:

- * cast members Rob Morrow and David Krumholtz
- * show creators and co-executive producers Cheryl Heuton and Nick Falacci
- * Caltech professor Gary Lorden, math consultant for the series

Women's Center News

The 2005-06 College Women's Club of Pasadena Scholarship applications are now available in the Financial Aid Office! Two Caltech students won this generous award for the 2004-05 academic year. Completed applications should be delivered to the Financial Aid Office by 5:00 P.M. on Tuesday, February 15, 2005. The following materials are required: Completed application (available in the Financial Aid Office.), One page, typed personal essay, Transcript or college work to date including current courses and commitments, Three recommendations, preferably from professors familiar with the student's aspirations and achievements. Please contact Beth Larranaga at 395-6284 if you have any questions.

Women's Center January
Events
Reel Women Video Series:
The Amamong Chorus: Singing

Out

Date: Thursday, January 13, 2005

Time: 12-1pm, Free pizza and soda

Location: Women's Center located in 265 Center for Student Services

The first video to document the growing subculture of lesbian and gay singing choruses, The Amamong Chorus: Singing Out is a one-hour documentary that tells the inspiring story of this small town lesbian/feminist chorus, and how the beauty of their music comes to win acceptance from a conservative community. As we watch the group grow into a nationally recognized, award-winning ensemble, this video shows how one person's spirit and dedication can help transform a community.

Women's Health and Wellness Series

Small Changes, Big Results

Date: Thursday, January 20, 2005

Time: 12-1pm, Free lunch. RSVP required! To sign-up please call ext. 3221 or email: wcenter@studaff.caltech.edu

Location: Women's Center located in room 265 of the Center for Student Services.

Sometimes all it takes is one lifestyle tweak to move from contemplation to action. Come learn how making small changes in your diet can make big differences in your health from Lori Paulus, founder of Stay Motivated!

Massage, Begins January 11, 3-5pm, Women's Center

Come relax, alleviate your worries and get rid of your aches and pains! Visit the Women's Center every other Tuesday, beginning January 11 from 3-5pm for FREE 10 minute Chair Massages by Lura Astor, LMT. This service is open to students, faculty, and staff of Caltech, both women and men. To sign up please contact the Women's Center at ext. 3221 or wcenter@studaff.caltech.edu

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.

The American Society of Naval Engineers (ASNE) sponsors a scholarship program to encourage college students to enter the field of naval engineering. Currently one year scholarship awards are \$2,500 for undergraduate students, and \$3,500 for graduate students. Applications and further instructions are available at: www.navalengineers.org/Programs/Scholarships/sc_info.htm. The deadline to apply is February 15, 2005.

The College Women's Club of Pasadena scholarship applications are now available. This scholarship is available to female students who will be completing their sophomore year or higher, with a minimum GPA of 3.0. Applications are available in the Caltech Financial Aid Office. The deadline to submit all materials to the Caltech Financial Aid Office is: February 15, 2005.

The National Academy for Nuclear Training offers the 2005-06 National Academy Scholarship. This \$2,500 award is available to eligible sophomores, juniors, and seniors majoring in a variety of engineering fields who would consider careers in the nuclear power industry. Applications and additional details are available at: <http://www.nei.org/nantscholar>

ships. All materials must be received by February 1, 2005.

The following scholarships are still available. More information is available on our website: <http://www.finaid.caltech.edu/news.html>

The Swedish Club of Los Angeles

2005 Olive W. Garvey Fellowships

American Public Power Association "APPA"

Citizens for Global Solutions

The Minerals, Metals & Materials Society "TMS"

The Glamour Magazine's 2005 Top Ten College Women Competition

The Mensa Education & Research Foundation Scholarship Essay Contest

The Pauletta and Denzel Washington Family Gifted Scholars Program in Neuroscience

The Society of Plastics Engineers

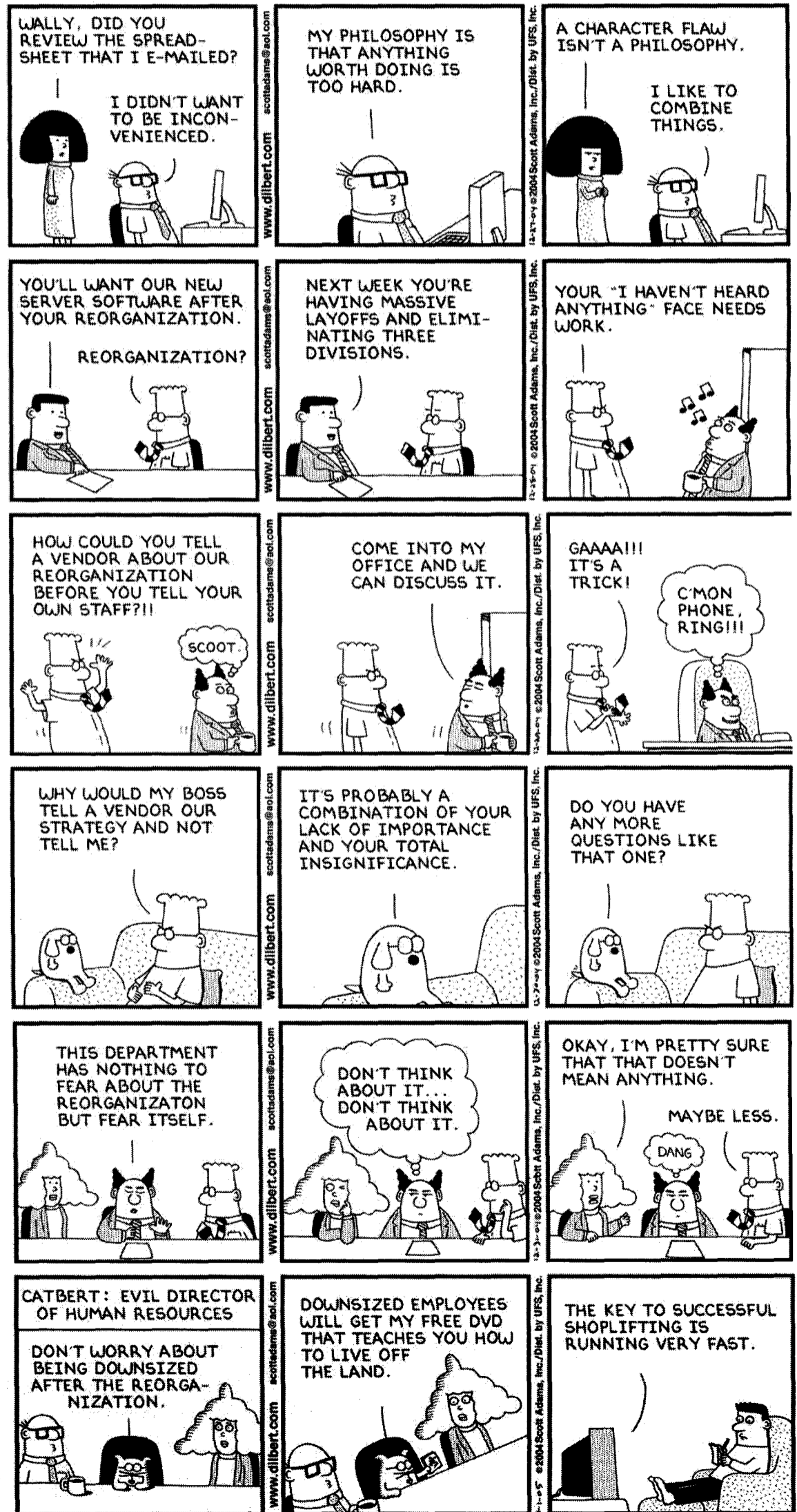
The Excellence in 3D Animation Award

Educaid's doubletake sweepstakes:

The Navy's Baccalaureate Degree Completion Program (BDPC).

The National Council of Jewish Women/Los Angeles

The Air Force Reserve Officer Training Corps (AFROTC)



Geologist's Research Helps Explain Indonesia Tsunami

By MARK WHEELER

PASADENA, Calif. - Kerry Sieh, the Robert P. Sharp Professor of Geology at the California Institute of Technology and a member of Caltech's Tectonics Observatory, has conducted extensive research on both the Sumatran fault and the Sumatran subduction zone. Below, Sieh provides scientific background and context for the December 26, 2004 earthquake that struck Aceh, Indonesia.

The earthquake that struck northern Sumatra on December 26, 2004, was the world's largest earthquake since the great (magnitude 9.2) Alaskan earthquake of 1964. The great displacements of the sea floor associated with the earthquake produced exceptionally large tsunami waves that spread death and destruction throughout the Bay of Bengal, from Northern Sumatra to Thailand, Sri Lanka and India.

The earthquake originated along the boundary between the Indian/Australian and Eurasian tectonic plates, which arcs 5,500 kilometers (3,400 miles) from Myanmar past Sumatra and Java toward Australia. Near Sumatra, the Indian/Australian plate is moving north-northeast at about 60 millimeters (2.4 in.) per year with respect to Southeast Asia.

The plates meet 5 kilometers (3 miles) beneath the sea at the Sumatran Trench, on the floor of the Indian Ocean. The trench

which Sumatra and the Andaman Islands sit lurches many meters westward over the Indian plate.

The section of the subduction megathrust that runs from Myanmar southward across the Andaman Sea, then southeastward off the west coast of Sumatra, has produced many large and destructive earthquakes in the past two centuries. In 1833, rupture of a long segment offshore central Sumatra produced an earthquake of about magnitude 8.7 and attendant large tsunamis. In 1861, a section just north of the equator produced a magnitude 8.5 earthquake and large tsunamis.

Other destructive historical earthquakes and tsunamis have been smaller. A segment to the north of the Nicobar Islands ruptured in 1881, generating an earthquake with an estimated magnitude of 7.9. A short segment farther to the south, under the Batu Islands, ruptured in 1935 (magnitude 7.7). A segment under the Enganno Island ruptured in 2000 (magnitude 7.8) and a magnitude 7.4 precursor to the recent earthquake occurred in late 2002, under Simeulue Island.

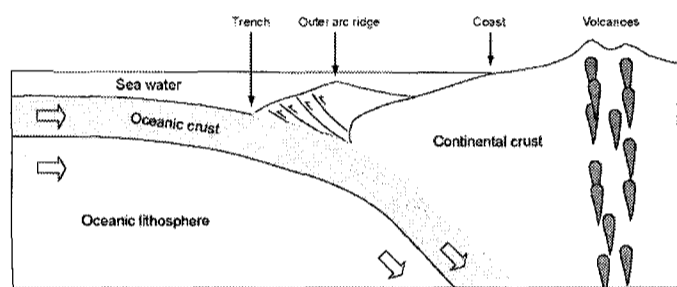
This recent earthquake was generated by the seismic rupture of only the northernmost portion of the Sumatran section of the megathrust. Therefore, the fact that most of the other part of the section has generated

few great earthquakes in more than a hundred years is worrisome. Paleoseismic research has shown that seismic ruptures like the one in 1833, for example, recur about every two centuries. Thus, other parts within the section of this fault should be considered

dangerous over the next few decades.

During rupture of a subduction megathrust, the portion of Southeast Asia that overlies the megathrust jumps westward (toward the trench) by several meters and upward by 1-3 meters (3-10 feet). This raises the overlying ocean, so that there is briefly a "hill" of water about 1-3 meters high overlying the rupture. The flow of water downward from this hill triggers a series of broad ocean waves that are capable of traversing the entire Bay of Bengal. When the waves reach shallow water they slow down and increase greatly in height—up to 10 meters (32 feet) or so in the case of the December 26 earthquake—and thus are capable of inundating low-lying coastal areas.

Although the tsunami waves subside in a short period of time, some coastal areas east of the megathrust sink by a meter or so, leading to permanent swamping of previously dry, habitable ground. Islands above the megathrust rise 1 to 3 meters, so that shallow coral reefs emerge from the sea. Such long-term changes resulting from the December 26 earthquake will be mapped in the next few months by Indonesian geologists and their colleagues.

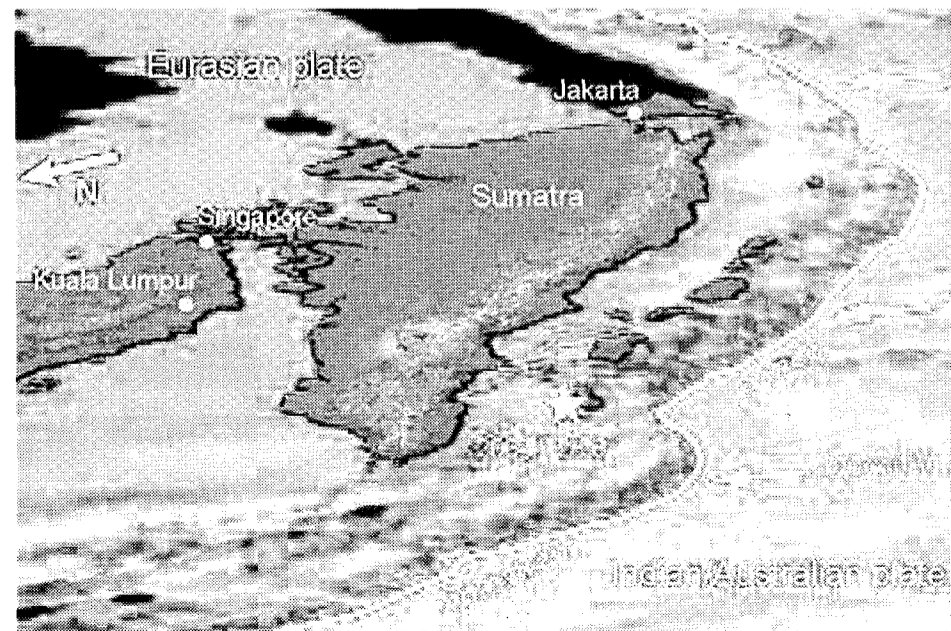


runs roughly parallel to the western coast of Sumatra, about 200 kilometers (125 miles) offshore. At the trench, the Indian/Australian plate is being subducted; that is, it is diving into the earth's interior and being overridden by Southeast Asia.

The contact between the two plates is an earthquake fault, sometimes called a "megathrust." The two plates do not glide smoothly past each other along the megathrust but move in "stick-slip" fashion. This means that the megathrust remains locked for centuries and then slips suddenly a few meters, generating a large earthquake.

History reveals that the subduction megathrust does not rupture all at once along the entire 5,500-kilometer plate boundary. The U.S. Geological Survey reports that the rupture began just north of Simeulue Island. From the analysis of seismograms, Caltech seismologist Chen Ji has found that from this origin point, the major rupture propagated northward about 400 kilometers (249 miles) along the megathrust at about two kilometers per second.

By contrast, the extent of major aftershocks suggests that the rupture extended about a thousand kilometers (620 miles) northward to the vicinity of the Andaman Islands. During the rupture, the plate on



Figures Courtesy of pr.caltech.edu

The India/Australian plate moves in stick-slip fashion in relation to the Eurasian plate, causing the megathrust to slip suddenly after long periods of stability.

Eyes Determine Emotions

By ROBERT TINDOL

PASADENA, Calif.--If your mother ever told you to watch out for strangers with shifty eyes, you can start taking her advice to heart. Neuroscientists exploring a region of the brain associated with the recognition of emotional expressions have concluded that it is the eye region that we scan when our brains process information about other people's emotions.

Reporting in the January 6 issue of the journal *Nature*, California Institute of Technology neuroscientist Ralph Adolphs and colleagues at the University of Iowa, University of Montreal and University of Glasgow describe new results they have obtained with a patient suffering from a rare genetic malady that has destroyed her brain's amygdala.

The amygdala are found in each side of the brain in the medial temporal lobe and are known to process information about facial emotions. The patient, who has been studied by the researchers at the University of Iowa for a decade, shows an intriguing inability to recognize fear and other emotions from facial expressions.

"The fact that the amygdala is involved in fear recognition has been borne out by a large number of studies," explains Adolphs. "But until now the mechanisms through which amygdala damage compromises fear recognition have not been identified."

Although Adolphs and his colleagues have known for years that the woman is unable to recognize fear from facial expressions in others, they didn't know until recently that her problem was an inability to focus on the eye region of others when judging their emotions. They discovered this by carefully recording the way her eyes focused on pictures of faces.

In normal test subjects, a person's eyes dart from area to area of a face in a quick, largely unconscious program of evaluating facial expressions to recognize emotions. The woman, by contrast, tended to stare

straight ahead at the photographs, displaying no tendency to regard the eyes at all. As a result, she was nonjudgmental in her interpersonal dealings, often trusting even those individuals who didn't deserve the benefit of the doubt.

However, the good news is that the woman could be trained to look at the eyes in the photographs, even though she had no natural inclination to do so. When she deliberately looked at the eyes upon being instructed to do so, she had a normal ability to recognize fear in the faces.

According to Adolphs, the study is a step forward in better understanding the human brain's perceptual mechanisms and also a practical key in possible therapies to help certain patients with defective emotional perception lead more normal lives.

In terms of the former, Adolphs says that the amygdala's role in fear recognition will probably be better understood with additional research such as that now going on in Caltech's new magnetic resonance imaging lab. "It would be naive to ascribe these findings to one single brain structure," he says. "Many parts of the brain work together, so a more accurate picture will probably relate cognitive abilities to a network of brain structures."

"Therefore, the things the amygdala do together with other parts of the brain are going to be a complex matter that will take a long time to figure out."

However, the very fact that the woman could be trained to evaluate fear in other people's faces is encouraging news for individuals with autism and other maladies that cause problems in their recognizing other people's emotions, Adolphs says.

"Maybe people with autism could be helped if they were trained how to look at the world and how to look at people's faces to improve their social functioning," he says.

The Bulletin of the Atomic Scientists is now accepting applications for the Leonard Rieser Fellowships in Science, Technology and Global Security for the 2005-2006 academic year. The fellowships, inaugurated four years ago, honor Leonard M. Rieser, (1922-1998), an accomplished physicist, activist for the peaceful resolution of conflict, and professor emeritus of Dartmouth University, who was deeply committed to investing in the ideas and potential of young people.

The Rieser Fellowships, which each year present a limited number of \$2,500-\$5,000 awards, are intended to allow undergraduate students - especially those majoring in a scientific field - to explore the connections between science, global security, and public policy. The Bulletin of the Atomic Scientists grants the Fellowships each year to students whose academic interests, extra-curricular activities, and career aspirations demonstrate an interest in the role of scientists in formulating public policy and in addressing global security challenges.

For additional details and application materials, please visit our website:

http://www.thebulletin.org/about_us/rieser_fellowship.htm

All applications must be received by March 7, 2005. Winners will be announced in the July/August issue of the Bulletin of the Atomic Scientists and on our website.

CONTACT:
Bulletin of the Atomic Scientists
6042 South Kimbark Avenue
Chicago, Illinois 60637
(773)702-2555



A village near the coast of Sumatra lies in ruins after the devastating earthquake and tsunami of December 26. Caltech groups are organizing donations to help the international aid effort.

Courtesy of www.news.navy.mil

OASIS, Campus Groups Sponsor Relief Effort for Tsunami Victims

By VIJAY GUPTA

The 8.9 magnitude earthquake off the coast of Indonesia on Dec 26th and the resultant Tsunami waves have caused wide-spread death and destruction in many countries including Indonesia, Sri Lanka, Maldives, Thailand and India. The death toll has already crossed 150,000 and is expected to mount further.

Indeed, as the UN secretary-general Mr Kofi Annan pointed out, the final death tally might never be known. The monetary loss has been estimated to be at least \$15 billion. Along with the lives already lost in the disaster, an additional danger of epidemics in the face of polluted drinking water looms. A massive reconstruction effort is also required so that the survivors can resume their daily lives to the extent possible.

In the face of such devastation, the response from all over the world has been overwhelming. Besides the official help from governments, there have been spontaneous donations from the general public everywhere. Many volunteer organizations have taken up the job of collecting and channeling money for reconstruction and rehabilitation. However, given the magnitude of the tragedy, the relief efforts are still grossly unequal to the costs of the recovery.

The Caltech community shares a special bond with the victims since a sizeable number of members are from the affected areas. To lend a helping hand to the victims in their hour of need, many student and campus organizations

have come together to form the Caltech Tsunami Relief Effort (CTRE). Coordinated by the Organization of Associated Students of the Indian Subcontinent (OASIS), the effort includes representatives from such organizations as the Caltech Y, International Students Program, Caltech Democratic Club, Building Bridges, Health Education, Caltech Christian Fellowship, Graphics Resources and Mail Services among others. The primary aims of CTRE are to spread awareness among the campus community and mobilize funds for relief efforts.

As a means to that, tables were set up outside Red Door Café, Broad Café and Avery House last week. The tables were staffed by volunteers who were there to collect donations and answer any questions.

The response from the community was very encouraging and tables will also be set up this week on Wednesday, Thursday and Friday (12th January through 14th January) outside Red Door and the Keith-Spalding building. In addition, collection sites will also be set up for several weeks in prominent locations such as the Center for Student Services, the Caltech Y, the Post Office and the Braun Gym among others so that people can easily make donations.

CTRE is also planning a ticketed cultural event in Beckman Auditorium on Sunday, January 23rd. Among other things, the event will also feature some dance performances from the affected regions to show-case the rich cultural heritage of the area. The event will be

open to the general public and the campus community alike.

As a means of ensuring that the funds collected are spent in an accountable as well as speedy fashion, CTRE has selected three organizations to which it will donate money. UNICEF aims at preventing child-exploitation and providing health care and other support to the affected children. There is a stark need to work on these aspects in the area. Architecture for Humanity will be building basic shelter, schools and medical clinics in the affected area. Asha for Education is working on relief and rehabilitation in the affected areas. The money will be donated for specific projects undertaken by these organizations so that there is a visible means of identifying the proper use of the funds. If donors request so specifically, CTRE will also forward the money to any from among a list of other organizations working for relief such as Doctors without Borders, Aid India etc.

Additional information about CTRE and the activities it is undertaking can be found on the web site <http://www.caltechy.org/tsunami>. Since it is a grassroots movement, there is always a need for more volunteers and new ideas. There has been an out-pouring of sympathy for the victims from all over the world in general and the campus in particular and the Relief Effort aims at giving the members of the community a channel for providing assistance to the victims.

Einstein Team Plans Exhibit About Visits

Continued from Page 1, Column 2

references and photographs pertaining to Einstein's visits to the university. Buchwald and fellow senior scientific editor, Tilman Sauer, were quick to credit Aronin as "the student who did all the work."

The first column will display information regarding Einstein's scientific contributions to cosmology and physics, as well as detail his affiliations with the Mt. Wilson observatory during his Caltech stays. Buchwald elaborated, "Astronomers and astrophysicists engaged in following up on Einstein's general relativity that he finished in 1915 for a number of years. One major discovery of 1929 was that of Edwin Hubble—that not only do we live in a multi-galaxy universe, but that galaxies were moving apart. The universe was expanding and this contradicted Einstein's theory about a cosmological constant to account for a dynamically stable universe that neither expands nor contracts."

Buchwald continued, "It is well known that as a consequence of his visits to Caltech and Mt. Wilson, Einstein was delighted by being able to see the telescope, to talk to Hubble and as a result of this visit, he retracted his position regarding the cosmological constant, which is now coming back with a vengeance. A repulsive force to expansion does exist. New studies into dark matter and

ing scientist," a tradition that had been established with the modern Institute's founding in the 1920s. Physicists, astronomers and other scientists would frequent the campus, participate in colloquia, attend seminars and meet with colleagues in their respective departments during their stays. Einstein was no exception, meeting men such as Caltech founder Robert Millikan and talking to physicists, astronomers, chemists and biologists on campus—being as involved as much as he could with the intellectual community on campus.

Einstein was at Caltech at critical points in European history as well. "He was here in 1933 when Hitler came to power shortly before the end of winter term," Buchwald relayed. "Einstein made a strong public statement at Caltech to the newspapers that he'd never return to Germany, which he never did. He spent the last 22 years of his life at the Institute of Advanced Study at Princeton."

Buchwald stands in appreciation of Einstein's contributions to the Caltech community during his three visits on campus, claiming, "It was a prize that he came here and Caltech benefited scientifically and otherwise from his visits."

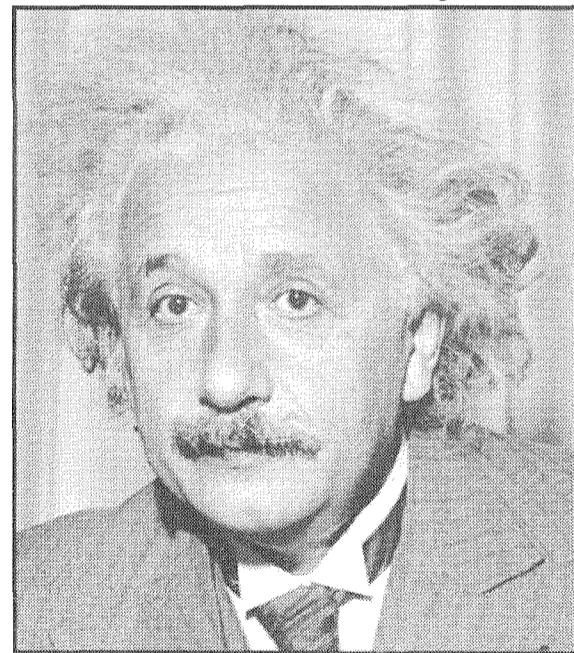
In its complete state, the columnar exhibit is intended for a wide audience, serving as a popular exhibition rather than a scientific one. The Distinguished Cen-

dark energy have revived interest in the constant."

The second column of the exhibit carries the theme of Einstein's involvement in politics and his public appearances in the Los Angeles area. One of the more memorable events Einstein participated in was the opening of the observatory at Pasadena City College.

8,000 people came to see him speak, roughly 10 percent of Pasadena's population at the time. Einstein was in great demand as a public speaker in Hollywood and during his stay took part in various events ranging from fundraising for humanitarian causes to meeting silent film star Charlie Chaplain.

The third column is specially dedicated to Einstein's special relationship with Caltech. Einstein visited under the title of "visit-



Courtesy of spratt.physics.wisc.edu

Einstein helped Caltech establish its academic reputation with his three visits during the 1930s.

ennial lectures will be of a more specialized, scientific nature, but will still remain open to the general public.

For more information regarding the Distinguished Centennial lectures and exhibit, or the Einstein Papers Project, those interested may consult www.einstein.caltech.edu or contact Dr. Buchwald at dibar@einstein.caltech.edu.

CALTECH CONVENTIONAL WISDOM WATCH



Caltech/JPL Float wins award: Caltech's monstrosity of a float wins innovation award, and at fifty feet tall, is hard to miss.



CBS Bases Show on Caltech: But the show gives no mention to Caltech by name, and will a show on math turn into a hit? TV execs await ratings numbers to answer that.



Rain, rain, go away: Record rainfalls wash away Caltech's major advantage over MIT. With three storms blowing through, homework won't be the only thing flooding the houses.

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