Volleyball Loses in Doubleheader

BY: MATTHEW GLASSMAN

Techers dorned body paint last Friday night as the volleyball team suited up for their second double header of the season and ASCIT hosted the first athletic screening of the year. The volleyball team was welcomed to the group at a reception hosted by the President of Iceland and the former prime minister of Iceland at the President’s residence. The Alumni Association was able to arrange the special welcoming because the former prime minister of Iceland, Steinigur Hermansson, is a Caltech alum from the Class of 1952.

“In contacted [Hermansson] to see if he was willing to welcome the group at a reception, and he emailed me back saying he would try to do even better than that,” said Shaindlin. “He said the current President would be glad to host our group at a reception at his residence, and that was our official welcome.”

Keeping in-line with their goal of “doing things that you couldn’t do if you weren’t with Caltech on the trip,” the Alumni Association also arranged a private tour of the headquarters of deCODE Genetics, a bio-pharmaceutical company in the capital Reykjavik that conducts research in genetics and applies its advancements towards developing drugs to treat various genetic diseases. Typically the company does not offer tours, but because two Caltech alums hold high management positions in the company, special arrangements were made.

According to Shaindlin, many Icelandic families have records of their family trees that trace a family’s roots to Iceland’s founding in the 10th century. The combination of genealogy, detailed medical histories, and Iceland’s isolation allows deCODE to better study and understand genetic diseases. “deCODE is really amazing,” said sophomore and biology major Angela Zah, the only under-graduate on the trip. “Iceland is a really isolated country. It’s a closed community and pretty homogeneous. So what they can do is take two individuals from one family, one with a genetic disease and one without, and compare their genomes to gene-target for diseases.”

The Alumni Association typically invites one or two students to join the trip. Zah was selected for the Icelandic trip, and her expenses were covered by a fund established by an anonymous donor specifically for the purpose of sponsoring undergraduates to travel abroad. “This is not something that students apply for,” said Shaindlin. “When we identify a trip that we want to do, we ask the faculty leader or leaders to identify a small number of students who could potentially participate and who alumni would enjoy traveling with. Based on those criteria, the faculty and alumni staff select one or two students to go.”

DVD Library Reopens

BY: DANIEL ROWLANDS

After spending last year in storage, the ASCIT DVD lending library will be available for use any day now. The DVDs will be available for check-out by undergraduates and graduates at Coffeehouse in the Red Room each evening and can be checked out for a period of three days.

The library contains several hundred DVDs, including classics, sci-fi films, and a number of DVDs and karaoke in many languages and films. A complete listing can be found on the Donut website.

Several years ago, ASCIT de-voted some of its excess money to building the DVD library and improving the acoustics in the ASCIT Screening Room. The library was kept in the SAC until it was closed for the South House Restoration.

DVDs were checked out by swiping one’s ID and scanning the DVD’s barcode. A computer system designed by Ryan and Graham Yoakum kept track of which DVDs were available and who had the check-out on which. After the SAC closed, the li-brary went into a state of limbo. The DVDs themselves were kept by a series of students while the library was closed and are thought to be in storage somewhere in St. Luke’s Medical Center.

There were rumors that the library might become available at the Red Room or the Coffeehouse, but the only remaining delay is obtaining a cart to store and transport the DVDs. Watson said that ASCIT is trying to get a cart from the Caltech libraries, but if they can’t they have funds on hand to purchase one.

While there are currently no plans to purchase new DVDs, BHC Chair Craig Montuori said that it is “somewhat unlikely” next year’s BoD will be interested in replacing DVDs that have been lost. At the checkout, there is no procedure in place for students to request additions to the library—a suggestion box is likely to be placed in Coffeehouse along with the library. ASCIT has hadn’t received how many requests they will fill or the timescale for additions to the new library.

The GSC recently contributed a significant amount of money to the library, and will presumably have some say in how that money is used.

Continued on page 2

Career Fair Special

Page 4

In This Issue

Medieval Club Battles it Up  Page 6
Sizzling Sensations at Mannion’s  Page 6
Mathematica Adds Up  Page 8
Dr. Quark Rescues Techers Again  Page 12

New Season of Num3r3s

Page 6
**ASCINTE Minutes**

Wednesday, October 11, 2006

Present Officers: Todd Gin- 
grich, Jean Sun, Craig Montcrief, Vicki Pon, Chris Gonzales, Csilla Felsen, Nathan Donnellan, Chris Watson, Jon Senn, JR Krom

Guests: Kevin Watts, Joe Dono- 
val, Mitchell Wang, Erin White, Ann Menchaca

1. Funding Requests

   * Kevin Watts and Joe Donovan, the VP and Prez of BEM Club, requested $250 to invite 
speakers for lunch talks. BEM Club just started up recently (after the spring club funding season), so $250 would be enough funding for Fall and Winter terms. BEM Club needs some funds for club funding again in the spring.

   ** v Vote: A unanimous vote granted $250 for club funding.

   ** * Requested $300-500 in funding for the Ultimate Frisbee Club. The Ultimate Frisbee Club has been playing against other colleges and in tournaments. They need uniforms, which cost at least $35 each for the rackets.

   ** v Vote: A unanimous vote granted the Ultimate Frisbee Club $500.

   ** Mitchell Wang and Nathan Crook requested $250 in funding for a “Speed-Dating” event. The funding would go toward food, prizes for dates, and raffle prizes. The BoD asked if this will include both ug and grad students (the inclusion of grad students might make the frisbee club more interesting or make this might be an in- vestment in the future). The planning is still in its first stages, so BEM Club suggested finding the money from the Alumni Association after people RSVP for the event, if it looks like they need more fund- ing, they will support it in asking for money later.

   ** v Vote: A majority vote granted $100 for the Speed Dat- ing event.

2. Trustee Meeting

   The Trustees have requested for a few dates to attend their annual meeting on October 28th for a “conversation” about student funding distributions. This is a credible opportunity to address the Trustee’s attention to the way in which Caltech can be improved for undergrads.

   * The Trustee needs to provide the names of students to attend by the end of the week. We created a spreadsheet of all the undergraduate students, we felt fully will represent every aspect of undergraduate academ- ic life.

   * The main issues we will address will be issues concerning housing, dinner, life, and overall academic performances. The specific call what we will address will be determined by the meeting will be held later this week.

3. Budget Update

   * Last week, Jon sent the BoD an update with the dollar amounts of reserves ASCINTE still has. If you’re in need of funding, we can more funding to you!

4. Money Library

   * WANTED: Atri-level weekly 
cart for the library move. Once this item is obtained, we will start renting out movies! Chris Watson will look into getting a temporary cart. If you have some movies you’d like to donate, please bring them down.

   * v Vote: A majority vote granted $100 for the Music Library.

5. Staff Awards

   All the awards are currently in the Tech Express (taking up 1/2 the room in there!). After the next meeting, the boxes will be brought to Todd and Nate’s room for store- age. We plan to have the awards delivered to the awardees by this Friday.

6. Thank you Tom!

   * Tom Mannion bought lap- tops for both the IHC and ASCINTE so we can more money to you!

   ** v Vote: A unanimous vote granted $300-500 to buy lap- tops for both labs.

7. ASCIT Comm.

   * ASCIT Comm. is having a meeting tonight, but they held out against some tough teams, said Head Coach Maureen Burt. “We were missing one of our starting outside hitters [Pamela Jansen (Sta- nard) but the rest of the team rose to the challenge.”

   * In the third and final game against the Eagles, the Beacons were behind by over ten points, but fought back to 

8. ASCIT Republic

   * ASCIT Republic is having a meeting tonight, but they held out against some tough teams, said Head Coach Maureen Burt. “We were missing one of our starting outside hitters [Pamela Jansen (Sta- nard) but the rest of the team rose to the challenge.”

   * In the third and final game against the Eagles, the Beacons were behind by over ten points, but fought back to rally to within three.

   * “I try not to think about the score at all,” said Stidham. “I was just being the best team I could be and not giving up.”

   * “We really wanted to beat West Coast Baptist,” said Stidham. “But we’re going to beat Occi- dental next Tuesday.”

   Another Day!, they blocked off the inlet from the ocean so that the lagoon would freeze over.”

   The group’s expeditions into the outdoors were especially pleasant because of the uncom- monly sunny weather. In the 10 days the group was there, all but the last day were warm and rain- less.

   “I bought my son a t-shirt and had to wear it just because it was so hot. It was in the 60’s and 70’s nearly the whole time,” said Mrs. Karen Noss.

   “We sent a people packing list to bring mittens, wool socks, umbrellas, and water proof pants...And then we got there and it was gorgeous,” said Shaindin with a laugh.

   Now back at its Caltech home, the Alumni Association has al- ready been planning its next trip to the Sea of Cortez, which is slated to be led by geology Professor Joan Stock in June of 2007. However, while the Iceland trip may be over, the impression on the country made on the group appears to be a lasting one. “Nothing is more beau- tiful, and the people are so nice,” said Zah. “I would definitely go...
BREAK AWAY.

Geographically, we’re in the center of the financial world. Philosophically, we couldn’t be further away.

The exceptional individuals at QVT come from a wide variety of academic and professional backgrounds not commonly associated with investing, from hard sciences to literature. Every day we confront some of the world’s most complex investment situations, and we find that success comes not from textbook training in finance, but from intelligence, curiosity, and an ability to see things differently from the pack.

QVT is a hedge fund company with over $5 billion under management. We’re going places, and we’re looking for more great people to help us get there.

Interview Date: Thursday, October 19, 2006

Please stop by our booth at the Fall Career Fair on Wednesday, October 18, 2006 from 10:30am to 2:30pm at the Bechtel Mall.

Please submit your application online via the MonsterTRAK recruiting system.
The Tech Career Fair will occur on Wednesday, October 18th at Becktel Hall, the area behind Millikan Library, The Tech presents the following from the Caltech Career Center.

What comes to mind when you think of the Career Fair? Cool companies that are actively hiring? Many of the recruiters are Caltech students and its rigorous academic programs. In fact, many of the recruiters are Caltech students and its rigorous academic programs.

1) Bring your resume. Attend a resume writing workshop and get feedback from others. If you don’t have a good resume yet, then collect cards and send employers one as a follow up.

2) See who is coming – Go to the Career Development Center website at www.career.caltech.edu, we have a link to all of the companies who are attending. To find out more about a company, simply make a list of the companies listed alphabetically, as by industry. Check out the company websites, and prioritize a list of the companies you must see. We want to have 100 companies scheduled to attend!

3) Make a business card. Graphic Arts offers a special deal on them for Caltech students or make some yourself for Career Day, then go to Graphic Arts. If you don’t use it now, you will in the future. It impresses employers.

4) Dress nicely. Wear a pressed/blouse, and pressed slacks/pants/skirt (not too high) and have a resume ready. What can you tell the interviewer about your major and what can you do in the future? It impresses employers.

5) Prepare questions in advance, then step up and start asking. What do you want to know about Internships? Corporate culture? Career paths? Locations? Research projects? Skills most required?

When the big day arrives, walk around the booths, pick up company literature and job listings, listen to other students as they speak with recruiters, and most importantly—drop off your resume and ask intelligent questions. Once October 18th has passed, start getting ready for Career Day and made some great contacts, follow up, get business cards of the recruiters, and contact them (making sure to remind them who you are—they may have seen hundreds of students during the course of the day). Did I say how IMPORTANT it is to follow up? Only a few students take the time to thank them and express further interest. Be one of the few—we believe me, it makes a big difference.

Companies in Attendance

Information Sessions

Session in Avery Library
4:00-5:00PM  Wall Street Journal/Lincoln Lab Information Session in Avery Conference Room (upstairs)

October 19th
12Noon-1PM Goldman Sachs Information Session in Bremen Conf. Room
3:30-5:30PM DE Shaw Information Session in Avery Library
3:30-5:30PM Schlumberger Information Session in Bremen Conf. Room (Student Services Bldg.)

October 20th
10:00-11:30AM 3M Co. Information Session in Brennan Conf. Room

Getting Business Cards

Having business cards is one of the most effective means of marketing yourself and leaving a lasting impression. It provides a means to follow-up at a career fair, interview, meeting, conference, alumni event. The Career Development Center has business cards printed for your business cards at Caltech Graphic Resources (call 626-395-6701 for a quote).

BY: JONIE WATANABE TSUJI

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The D. E. Shaw group is a highly successful investment and technology development firm with an international reputation for financial innovation and technological leadership. Since 1988, we’ve grown into a number of closely related entities and managed accounts with approximately US $23 billion in aggregate capital by hiring unusually smart people from a wide range of backgrounds. Current employees include a recent U.S. Women’s Chess Champion, a member of the famed MIT Blackjack team, multiple Putnam Fellows, winners of more than 20 International Math Olympiad medals, and a lot of people who are just incredibly strong in CS, EE, math, and finance. They didn’t necessarily think of themselves as “financial types,” and neither did we. We thought of them as people with extraordinary talent. The firm currently has openings in quantitative analysis, software development, computer architecture, computational chemistry, and information technology. Our working environment is intense but surprisingly casual. We provide unusual opportunities for growth. And we compensate extraordinary people extraordinarily well.

We will attend the Fall Career Fair on October 18 from 10:30 am to 2:30 pm in Bechtel Mall. Please stop by our booth.

Information session October 19, 3:30 pm Brennen Conference Room

To apply for a position, log on to www.career.caltech.edu/joblistings/index.shtml. If this isn’t possible, please send a resume and cover letter stating your GPA and standardized test scores, broken down by section where applicable, to jobs@deshaw.com.

Members of the D. E. Shaw group do not discriminate in employment matters on the basis of race, color, religion, gender, national origin, age, military service eligibility, veteran status, sexual orientation, marital status, disability, or any other protected class.
Science and Medieval History Make a Winning Duo

By: TESSA YAO

What is it about the Middle Ages that fascinates people? For some it is romantic images of castles, dragons, and beautiful maidens. For the group of people at Caltech it is a curiosity to learn, in true scientific fashion, how things were done in a long-ago time – a scientific fashion, how things it is a curiosity to learn, in true Science and Medieval History Make a Winning Duo

Club of the Week

The California Club of the Week is the CMRS (Caltech Medieval and Renaissance Society). The CMRS researches many aspects of life in the Middle Ages, including warfare, weapon-making, blacksmithing, leatherwork, and even chess, all with an emphasis on accuracy. The members study and practice medieval combat and extensively research the combat sessions. CMRS members indulge in several types of medieval combat such as heavy fighting, rapier fighting, archery, and occasional experimentation with siege weapons such as catapults and trebuchets. But it is the heavy fighting with broadswords and shields which was symbolic of the Middle Ages and the most popular among our members today.

Since the focus of the group is on authentic recreation, the goal is to make the fighting as realistic as possible. The society is about 30% of what makes the show unique. Caltech’s Gary Lorden, who is supposed to be a good guy or what. Since its inaccuracy, scientists work to ensure that the show is scientifically accurate. In addition to a complicated investigation of highway murder fic, in addition to a complicated investigation of homicide and the application of fluid mechanics to computer-dominated, a series of increasingly-difficult problems led them to find the hidden patterns after all.

The Caltech CMRS booth was set up on Sept 23rd and had a very positive reaction from visitors, filling up two pages of sign-up sheets with names of potential new members. The CMRS Booth displayed several medieval arts and crafts and there was a spectacular broadsword fighting display on the Beckman Lawn. For more information and photos of club events, visit the CMRS website at http://visitors.caltech.edu or contact Tessa Yao, Caltech Division of Biology, at (626) 395-8136, tessa@vis.caltech.edu.

Mark’s Tweak Prattle

Caltech Makes Math Cool with Another Season of Numb3rs

By: MARK EICHENLAUB

Caltech likes Numb3rs. This is clear from the moment that President Jean-Lou Chameau took the stage last Wednesday to announce the screening of an upcoming Numb3rs episode and a panel discussion with sundry Numb3rs cast, crew, and its often-futurist mused members. The interest of the group members is inarguably immense. Among the more intelligent of Chameau’s brief utterances was “Welcome to Caltech, where you do math every day, but also every night.” That is not strictly true, because it is currently Friday night, and I have not written any letters.

Caltech’s affinity for Numb3rs is not a difficult phenomenon to understand, and can easily be treated formally.

Proof that Caltech Likes Numb3rs

Postulate 1 (Legacy of Balti)

Caltech likes math. Postulate 2 (Fundamental Theorem of Hollywood): Television = money. Consequently, if Caltech, in a trivial application of the fact that Numb3rs is a television show to demonstrate that FBI Agent Da is real and hard-core. The proof that Dylan Brown-keen dyed jowls is a vestige of his MIT undergraduate education is left as an exercise to the reader.

If Caltech is biased one way towards Numb3rs, I believe it is biased the other. First, I don’t like TV. Second, I don’t like math. Third, I will not be won over simply by the dark, enchanting intensity of David Krumholtz’ midnight-dreamy looks. The episode shown was “Traffic,” in which the basic premise was that the Los Angeles area had recently seen a spree of attacks on highway motorists. Not surprisingly, Charlie Eppes saved the universe – with math.

Numb3rs co-creator Nick Fala claimed after the screening that math is about 30% of what makes the show unique. Caltech’s Gary Lorden, who is supposed to be a good guy or what. Since its inaccuracy, scientists work to ensure that the show is scientifically accurate. In addition to a complicated investigation of homicide and the application of fluid mechanics to computer-dominated, a series of increasingly-difficult problems led them to find the hidden patterns after all.

The case of Numb3rs along with Caltech professor Gary Lorden holds a panel for the show. Lorden has written so much strength and skill as any of the other ancient martial arts such as judo and karate. Wikipedia describes this type of fighting as “a serious full-contact sport; moves are not planned or signaled and fighters strike each other with considerable force and speed.” The Caltech CMRS is associated with a much larger organization called the Society for Creative Anachronism (SCA). The SCA was founded in Berkeley, CA in 1966 and has 30,000 members from all around the world.

Interestingly enough, according to the SCA Web site, a high percentage of SCA members are involved in high tech fields – computers, aerospace, high energy physics, etc. which may explain its popularity among Caltech personnel.

The CMRS currently participates in the Caltech Club Fair held on Sept 23rd and had a very positive reaction from visitors, filling up two pages of sign-up sheets with names of potential new members. The CMRS Booth displayed several medieval arts and crafts and there was a spectacular broadsword fighting display on the Beckman Lawn. For more information and photos of club events, visit the CMRS website at http://visitors.caltech.edu or contact Tessa Yao, Caltech Division of Biology, at (626) 395-8136, tessa@vis.caltech.edu.

This led, unavoidably, to Don Eppes’ love life. Don Eppes’ love life is complicated, brewing, weaving, and calculating. Wikipedia described it as a genetics problem, and Don Eppes’ love life is so complicated that it can’t be accurately modeled. Interestingly enough, according to the SCA Web site, a high percentage of SCA members are involved in high tech fields – computers, aerospace, high energy physics, etc. which may explain its popularity among Caltech personnel.

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Continued on Page 8

The cast of Numb3rs along with Caltech professor Gary Lorden holds a panel for the show.

"It looks like Charlie would do better in Ph 125 than I did last year."
Foxconn Electronics, Inc., a Hon Hai Precision affiliate, is one of the world’s leading providers of electronic components and cable assemblies. With revenue topping $30 Billion USD in 2005, the Hon Hai group continues to outpace industry rivals. Revenue and profits in 2006 came from Foxconn’s strong consumer base of the world’s leading PC, Consumer, Mobile Phone and Communications OEMs. As we continue to grow, we are seeking an exceptional candidates for our Introductory Technical Sales Trainee opportunities.

**Foxconn Introductory Trainee (FIT) Program – 6 Month Training Abroad**

**PROGRAM OBJECTIVE**
Foxconn understands one of the keys to sustained success and longevity is a concentrated focus on talent recruitment and development. The objective of this program is to identify talented engineering candidates who have additional potential to become leaders and business contributors at Foxconn, and then put them through a comprehensive six-month training program abroad. Our hope is that through this concentrated effort, these employees will not only gain tremendous skill development, but also an appreciation for Foxconn and the tremendous opportunities the company can offer.

**PROGRAM OVERVIEW**
The FIT Program is an intense six-month effort intended to expose and train participants in the following areas:
- Production
- Manufacturing Engineering
- Quality Control / Quality Assurance
- Design Engineering
- Research & Development
- Finance
- Sales & Marketing

Participants will get a combination of classroom, computer-based training (CBT), and live on-the-job (OJT) experiential learning.

**Desired Outcome**
The desired outcome of the program (upon completion) is to "graduate" the participants into the U.S. Foxconn workforce as regular employees. The skills and knowledge they acquire through the FIT program will position them to have an immediate impact on business results in the areas of Sales & Marketing, Design Engineering, or Research & Development.

**QUALIFICATIONS**
- Education:
  - B.S. Engineering Degree (Mechanical Preferred)
  - M.S. Engineering Degree (Mechanical Preferred)
  - A.B.A.
  - Preferred extra-curricular:
    - Active participation in university sponsored clubs or organizations
    - Two Letters of Recommendation - university faculty
    - Two Letters of Recommendation - non-university affiliation
  - Bi-Lingual (English/Mandarin) useful, not required

**COMPENSATION**
- Initial Compensation Package:
  - Competitive Annual Salary & Health Benefits
  - One Round-Trip air fare to the program location
  - One Round-Trip air fare from program location to the U.S. (optional mid-program break)
  - All lodging accommodations
  - Visa/Passport assistance

**PROGRAM EXPECTED START DATE: SUMMER/2007**

**RESUME SUBMISSION:**
For immediate consideration, please forward resume/CV to Foxconn: HRCareer@Foxconn.com referencing job code 07-FIT in the subject line.

Foxconn is an Equal Opportunity Employer

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Flix your mind. Flex your muscle. Join Oshkosh Truck, and join a fiercely growth-oriented company that builds the world’s most technologically advanced trucks in the world. A $3.8 billion company, Oshkosh Truck Corporation, headquartered in Oshkosh, Wisconsin, consists of ten divisions throughout the US. And it builds the planet’s toughest and most innovative military, fire and rescue, emergency, towing, refuse collection and concrete mixing vehicles. Be part of the Oshkosh Truck team. And you, too, can stand out.

**INFORMATION SESSION**

CENTER FOR STUDENT SERVICES

**INFORMATION SESSION**

OCTOBER 17, 2006

3:30PM - 5:00PM

**JOB FAIR**

WEDNESDAY, OCTOBER 18, 2006

ON-CAMPUS INTERVIEWS

FRIDAY, OCTOBER 20, 2006

**OSHKOSH**

For more specific information and to apply, visit our website at www.oshkoshtruckcorporation.com

Oshkosh Truck Corporation and its subsidiary companies offer competitive salary, an excellent benefits program, and opportunities for ongoing training and growth. We are an Equal Opportunity Employer. Women and minorities are encouraged to apply.
What do trips to LA to see directors, a cooking class, and the carnival/club fair all have in common? They are all intended to improve the quality of student life and they are all organized by Campus Life. Campus Life is in charge of organizing these events. While many students may be familiar with Campus Life’s cooking class, his job is actually much more complicated.

“Tom’s actually a very large business component,” said Mannion. “We tie together housing, the bookstore, and dining services. We deal with anything having to do with food, including the kosher food plan, and we’re involved with the food committee. That’s a pretty big job. To sum it all up, there’s a very tight line between meeting the trustee’s expectations and fulfilling the role of Campus Life.”

“Campus life also does a lot of things to enhance culture here at Caltech. The MOSH is involved in taking students to operas, we have a unique Mesa class with the MOSH, there’s a cooking class, and a number of alums call me for advice with cooking. We try to make sure the students see each other by putting together events like the large alumni association so was impressed with the fireworks this year that they wash over with a budget.”

Tom Mannion also teaches a cooking class on Thursday nights. It’s open to 16 undergraduates, with priority given to seniors.

Tom Mannion and TA Matt Glassman put the finishing touches on the main course that students prepared Thursday night.

“...it’s clearly one of the more popular classes. I’m writing a book, so it’s a great opportunity to do something fun and it might not otherwise be able to afford. Alums are becoming increasingly interested in the campus life programs and are also making significant contributions to improving student life.

Students can look forward to a large range of student life activities. The distinguished speaker series allows students to attend talks by Nobel laureates, best-selling authors, explorers and celebrated personalities. Every Sunday Mannion invites students over to his house to watch football. He will be inviting all the houses over for dinner to discuss the south house project and possible plans for the new north house.

“We have a lot of value that we can do the pressure off and make students realize that what a great place this is, that’s what it’s about,” said Mannion. “Unless I hear, ’tech is hell on earth, I’ll do whatever I can’t help but be happy. Some times it takes other activities to make them realize that.”

Continued from Page 6

with mathematics and people getting shot at. I think it’s cool as heck.” Palaci clarified that Numb3rs’ success, while it’s about “a very interesting group of people coming together,” it’s a show about the general university world and the FBI. These worlds are col- lonized because they occur in two brothers on opposite sides of the law. “We focus a lot on the fam- ily,” said Palaci.

And it’s only going to get better. Throughout the panel discussion, cases and crew dropped hints that upcoming episodes would contain a mathematical genius as a foil to Charlie Epps, a new character who acts as a foil to Caltech’s real-life Dr. Tom Tombrello, and bigger and badder villains, one of whom, somebody, might even get away.

The show’s mathematical inaccuracies are inevitable, it’s naive stereotyping of physicists is be- neficient enough to be sustainable, and it’s intentions, as far as these things go, seem to be in the right place.

“...We’d love to see this country being a more mathematically interested in science,” said Cherry. “We’re out there, the show’s co- creator. It’s a good thing. We’re just idle talk. The Numb3rs  website, www.numb3rs.winkleberry.com, offers information and advertising for the show, but also math exercises for use by school teachers. I completed an entire course on the famous ‘birthday problem’ and considered submitting it to Professor Lorden for extra credit, just before realizing that I had turned in a drop card for Ma 112 that very afternoon. And I’ll admit, seeing the Red Door Cafe, Millikan Library, “The Fishbowl” in Ruddock House, and occasion- ally even myself on TV is pretty cool.

The greatest selling point for Numb3rs is it’s popularization of math. “Trivial’s” clarification of some common misconceptions of probability and it’s tautest-in- test to the science of the invention of new public control were integrated into the show so smoothly the unsuspect- ing median American won’t even know he’s being educated as he watches.

Numb3rs, Dr. Charlie in- fested in, has won the Carl Sa- gan Science award for presenting public understanding of math and science. The youngest par- ticipant in the post-screening question and answer session was a middle-school girl, who added to ex- pression of her favorite fan in alternative, deification) of David Keenholts, expressed the one thing that makes Numb3rs worthwhile. “Since I’m a fan, I saw this show, I’d want to be better at math,” she announced. Well, young lady, I too.

Software Review

Mathematica >> Other Tools?

BY: RADHIKA MARATHE

Are you a freshman who gets com- pllety lost when the professor casually says, “Oh, if you can’t do that, it’s basic mathematics.”

As clear from the above exam- ples, the mathematics in Numb3rs demonstrates the feasibility in planning and symbolic manipulation of computer algebra systems. The software reviewed above as well as the computer algebra systems Maple, Mathematica and MATLAB are available to the students at Caltech for use during your time at the new school year is the perfect way to get a jump start on your computer algebra studies.

Students and faculty to interact...”

Students and faculty to interact...”

A lot of the money for these pro- jects comes from donors. The money was raised, said the late Larry Shepard in memory of his son, Don, a former Caltech

Development and current versions

Mathematica is a programming language developed and sold by Wolfram Research. The current version is v5.2. Maple was developed at the University of Waterloo, Ontario, Canada and has been sold commercially by Maplesoft since 1988. The current version is 10. Matlab (MATLABR) is a similar programming language created by The Mathworks in 1984 to perform intensive computa- tional tasks better than languages such as Fortran and C. The cur- rent version is R2006b.

Tools in the toolbox

All these packages can primarily be used for all operations possible with a calculator. This includes basic algebraic manipulations, matrix operations such as inversion, solving, and solving a system of degree polynomial equations, diferentiating with respect to any specified variables, indefinite and definite integration plotting in 2D and 3D over a specified range. These packages contain computations that may be too tedious by hand such as factorials of large numbers, factoring polynomial expressions, numerical solutions for differential equations and plotting of vector fields is possible using these. The range of util- ity for these softwares includes areas such as complex analysis, graphics, statistics and signal processing, image processing, transforms etc.

For ease of importing and ex- porting data, all these softwares are compatible with major comput- ing systems and accept data in various formats such as EPS, GIF, PNG, SVG, XML, HTML, and RTF etc. At a higher level of computation, these may be integrated with various other software packages to create complex components of software systems.

Syntax to get you started

Although extensive functional information are available on the Web site for each of these packages, the most basic functions are discussed below with examples for the syntax:

Mathematica: For basic alge- braic manipulations, the expres- sion to be evaluated followed by a Shift+Return gives the answer.

The sign ^ stands for raised to. For example:

> a = 2; b = 3;

In[1]: a^b

Out[1]:= 8

In general, all softwares are similar in the form of a command prompt (the Worksheet mode (the tra- ditional way)) or the form of a command prompt (the Document mode has inter- active calculation environment). The syntax is:>

> In[1]: a = b^2; In[2]: a = a + 1; In[3]: a = a + 2; In[4]: a = a + 3; etc.

> Plot[x^2, {x, 0, 1}]

> Integrate[x^2, x]

> Solve[a x^2 + b x + c = 0, x]

> Inverse[{{1, 2}, {3, 4}}]  -> {{-2, 1}, {3/2, -1/2}}

> Plot3D[Sqrt[xy], {x, 0, 1}, {y, 0, 1}]

> Numb3rs... has won the Carl Sagan Science award for promoting public understanding of math and science

This screenshot from Mathematica demonstrates its functionality in plotting and symbolic manipulation, which is critical in the mathematical ac- curacies of the show. As clear as the above examples the basic syntax is similar for all three softwares. Clicking on the Help Menu or typing help returns a detailed guide for performing any required task.

The software reviewed above may be useful to students and faculty at Caltech students at software.caltech.edu.
\[
J = \int_s^{s'} \left[ Q^{(0)}(s, x; s') + \varepsilon^2 Q^{(2\varepsilon)}(s, x; s') \right] ds' + \cdots
+ \frac{1}{2} \varepsilon^2 \kappa (s_c - s)^2 Q^{(0)}(s, x; s_c') + \cdots
\]

= \int_s^{s'} \left[ Q^{(0)}(s, x; s') + \varepsilon^2 Q^{(2\varepsilon)}(s, x; s') \right] ds' + \cdots

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Presentation & Reception: Athenaeum October 16, 2006 6:30 pm
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Reflections on Rotation

BY: RADHIKA MARATHE

I confess that my decision to move off campus this year was almost entirely based on hav- ing the freedom to control what I ate and how I spent my money. I was also excited to be able to form my own group of friends and participate in various activities. Of course, there are many other factors that may have played a role in my decision, but I believe that these few were the most significant.

On the whole, I think that my decision to move off campus was a good one. I have found that I have more freedom to control my life and that I am able to enjoy my time more. I have also found that I have more time to spend with my friends and that I am able to enjoy their company more.

The fact that I am able to control my life more has been very beneficial to me. I have found that I am able to spend more time with my friends and that I am able to enjoy their company more. I have also found that I am able to spend more time with my family and that I am able to enjoy their company more.

However, I do believe that there are some negative aspects to moving off campus. I have found that I am not able to spend as much time with my family as I would like and that I am not able to spend as much time with my friends as I would like. I have also found that I am not able to spend as much time with my work as I would like.

Overall, I believe that my decision to move off campus was a good one. I have found that I have more freedom to control my life and that I am able to enjoy my time more. I have also found that I have more time to spend with my friends and that I am able to enjoy their company more.

Thanks to the Alumnus

BY: CRAIG MONTUORI

I’d like to personally thank a few people for some things that have happened recently. I think it might be nice for people to show up and give people advice on things that they are interested in.

I’d like to thank Dr. Radhia Marathe for being such a great friend to me.

I’d like to thank Dr. Frank Musik for being such a great friend to me.

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I’d like to thank Day off Friday, October 13. However, there is some discrepancy in the dates, so the...
Prof. Richard Murray:

How does being a Caltech undergraduate compare to being on the Caltech faculty?

Things that are the same: the honor system, the “feel” of the campus, the sense of apprehension I get walking down the Olive walk on the first week of class in late September (“am I really going to be able to make it at Caltech?”). Things that are different: teaching instead of being taught, working “regular” hours, eating at Chandler and the Ahs instead of the student houses and BC.

What website(s) do you frequent? Team Caltech wiki, Slashdot.

Professor Nate Lewis:

How does being a Caltech undergraduate compare to being on the Caltech faculty?

“Basically, it is the same. In each case, when you are starting, it is pass/fail (get tenure or fail), then you get grades (with a low average in either case, one from professors the other from grant agencies), then you get some burnout along the way, in both cases you get to work long hours in lab for not much money, in each case you have to pay for parking, in both cases we never have a winning football team to root for except USC, we both get to collaborate with smart people on our science and engineering problems, and we all get to keep asking the administration for things to make us happier, while we somehow still stay and like it better than anywhere else we could be.”
Dr. Quark Answers

Helping you with the power of Science!

Dear Dr. Quark,

I was wondering what the repercussions of having sex in the Gene Pool are. I am considering doing it, but would like to have your opinion before I make up my mind.

-Dedicated Reader

Do it, assuming you’re a guy (which is generally correct 2/3 of the time), and assuming you found a girl (which is correct less of the time.) The worst thing that can happen is you catch some sort of terrible disease (that pool water is pretty sketchy) or fall victim to a similarly nasty side affect, like children. You could also be seen, but all that would lead to is a potentially embarrassing situation with campus security and perhaps some pictures that will follow your around for the rest of your academic career. On the positive side of things you will able to tell wonderful stories in your old age to future generations about how you did something patently retarded. Additionally, while it is generally the norm to have sex within the boundaries of the gene pool, I think you should consider the exciting possibilities of having sex outside of it! Not only are the accommodations much more comfortable, but intensely more varied! Considering how reproduction with specimen outside of one’s species produces nonviable offspring, I think you would be doing the rest of the world a favor. Carry on sir!

Dear Dr. Quark,

I think I might have a problem that you could help me with. You see, I spent a year in high school hitchhiking across the country and had a great time, but I got stuck outside Chicago in February and long story short my left leg is prosthetic. It’s pretty realistic so people don’t really notice, but I’ve been thinking of joining the soccer team. Do you think, ethically, I can use my super kicking powers (my knee is spring loaded so that I can kick a ball so hard it catches fire) to destroy opposing teams?

-Ronny Cordova

Forget the ethical ambiguities for now. A super powered knee jerk isn’t really that much worse than steroids, and you have the health benefit of not turning out to be like Bob from Fight Club with unnaturally large mammary glands. I think you should consider the mechanical flaws in your plan. With one drastically overpowered leg you would be forced to run in circles during a match. I could perceive you stealing the ball from an opponent by super kicking him or her in the spleen, only to dribble the ball away at super fast speeds in a large circle, where the same player you had stolen it from would be waiting. Also, I am pretty sure that lighting the ball in play on fire would be considered a yellowcard, which means you can only do it once a game. Perhaps a better than asking yourself “Should I join the soccer team and use my super fantastic kicking power?” is asking yourself “Why do I want to win?” What is your mad obsession with winning? Sports at Caltech is not about winning. It’s about not winning...I mean having fun.

Dear Dr. Quark,

I was wondering if you could help me with a math problem.

Do you have any favorite math problems?

-Anonymous

Math is a very broad and deep subject. It’s impossible to pick one favorite problem. However, I do enjoy the problems that require creative thinking and clever solutions. Here’s one of my favorites:

Prove that there is no right triangle with integer side lengths and integer hypotenuse.

For a more detailed solution, you can visit the website of the American Mathematical Society at www.ams.org.

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