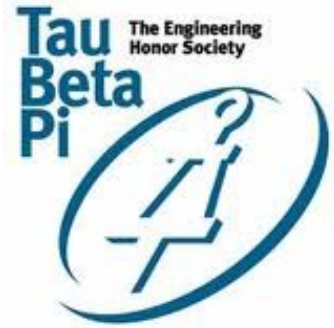


The Cornerstone



Volume 10, Issue 1

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MI-Gamma

From the Desk of the President

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Important Dates:

- *First Comity—Tuesday, September 18 (A week from today!) 7-9pm*
- *Career Fair—September 24th & 25th*
- *Second Comity—Tuesday, October 2 6:30-8:30pm*
- *Initiation—Saturday, December 8 4-6pm*

Fall 2012 is shaping up to be an awesome semester, with meaningful service events, engaging socials, and some exciting changes in the pipeline. We've already met success with our first participation in the College of Engineering "Welcome Day" and Northfest. We've dramatically increased the visibility of Book Swap to incoming freshmen. This month we'll also be co-hosting one of the largest SWE/TBP Career Fairs to date. This is an exciting time to be involved in TBP at Michigan and I expect great things throughout the rest of the semester.

experiences of my time as an undergrad, and I'm very excited that we're starting off our program this year.

Reaching beyond our normal sphere, Nathan Rowley, Nick Clift, and Dan Kiefer hosted what was likely the first and only international MindSET module in Cape Town, South Africa during a volunteer abroad trip with EGL this summer. They taught 5 classes on water bottle rockets

Michigan Gamma strives to engage in meaningful service to the college and community. Over the next year we hope to not only continue to meet our current service expectations, but to increase our relevance by engaging in new and exciting opportunities to give back. This semester we've already seen progress in some key areas of the service that we perform.

Building on the success of previous semesters, this semester's Book Swap aimed to increase our visibility to incoming freshmen by providing information to them during Summer Orientation. We also were able to reach many students about our Book

Swap and Tutoring at the "Engineering Welcome Day" hosted by CoE. The website also underwent a complete redesign, including an improved front-end for customers and streamlined back-end for inventory management. The new system has dramatically increased efficiency while cutting down on data errors, and will be built on in future semesters to provide increased functionality and improved ease-of-use.

Planning for next semester's Alternative Spring Break trip is well underway. Applications are out and it's looking to be a great experience. ASB trips were one of the most powerful and formative

"We know how great a chapter we have here"

and even impressed a local paper.

In addition to serving the community and college, TBP engages in a number of events that aim to help members and fellow students in their professional and career development.

Every fall, TBP helps to bring one of the largest student-run career fairs in the country to North Campus. This fall is no

exception. Over 290 companies are expected to be in attendance at the SWE/TBP Career Fair. September 24th and 25th will be a busy time on North Campus as hundreds of recruiters and thousands of students networking throughout the engineering buildings.

Our Corporate Relations Program is also continuing to grow and develop, with eight information sessions this month, and corporate interest



for new and expanding programs. Michigan Gamma is also excited to be hosting the upcoming District 7 Conference this coming April. We know how great a chapter we have here, and we're excited to be able to show the rest of our district what we have to offer. Look forward to more information about the D7 Conference as it approaches and even get involved in the planning.

And what semester could be complete without a good stock of socials and new ideas? Stay tuned for information on upcoming socials such as TGs, IM sports, and

more. And as always, there will be plenty to discuss at New Initiatives meetings. We'll be investigating the Prestigious Actives and Tiered Leadership pilot programs and looking into exciting new undertakings.

This is going to be a great semester with lots to be involved in. Hope your semester both inside and outside of TBP is great. [Go Blue!](#)

~ Mike Hand
President, Tau Beta Pi
MI-G

Kristin Graf made a list (very engineer of her!)

1. Studied ~300 hours for the MCAT
2. Went to Rocky Mountain National Park and hiked ~40 miles all the way to its 12,400 ft altitude (The view was beautiful!)
3. Conducted research at the Orthopaedic Research Lab: did mechanical testing by breaking 94 rat femurs using a reeally expensive Bose system

Welcome Back!

It seems like within a few weeks we go from complaining about the blistering Michigan summers to griping about its frigid autumns, but along with those orange leaves comes the dreaded, beloved advent of the fall semester.

This is a time of great tragedy and sorrow, when your carefree summers relaxing on the beach (or working 80 hours a week at your internship)

are wrenched away in one fell swoop, to be replaced by throngs of students competing for space on the bus to go to classes to learn from GSIs they cannot necessarily understand.

But fear not, because it is also the time to see your friends and gloat about how much

money you made over the summer. Or all the places you went. On that note, welcome back, here's to a great or academically so-so semester, and read further to find out what your fellow Tau Bates have been up to this past Summer 2012...

Nick Cobane developed appendicitis... in China. And had surgery on it.... in China. Being diagnosed in a shady public hospital, he opted for a private hospital for the operation. His surgeon was even from U of M!

Gina McGauley's summer highlight was hiking along the Great Wall of China... on her birthday!

"It was pretty interesting. I actually had just learned that the Great Wall was pretty useless and failed most of the time, but it still managed to impress me.

I remember thinking, I know this didn't work but it is *still* really cool. It literally just keeps going and going. That was the coolest part. You look at the mountains in front of you and you can see it snaking over the ridge until it's too small to see. We hiked for three hours along a section a bit farther from Beijing than most people go to. So there were very few other people.

We probably saw 10 other people total, which is so much nicer than rubbing elbows with a bunch of other tourists. Also, we hiked along a section of the wall that isn't as up-kept as the more popular ones. It was interesting to see the wall falling apart.

It added some natural beauty to the landscape because it was taking over the wall.

Plus, it allowed us to see different layers of stone within the Wall.

**The ABCs of
The World of Tau Beta Pi
In Form of Haiku**

**The initial part
Of a multi-part series
By Pritpaul Mahal**

A - Actives
Chapter needs people
To keep everything running
Those are the actives

B - Bylaws
Our chapter needs rules
For Elson's memorizing
Oh, to govern too.

C - Cornerstone
An essential part
Would life be complete with-
out
Cornerstone Haiku?

D - Distinguished Actives
Some do a lot more
These are the dedicated
Distinguished Actives

E - Electees
An essential part
Without new blood our
chapter
Would cease to exist

F - Fall semester
Lots of electees
And career fair, too. Oh my!
Fall keeps us busy

G - Groups
Compete in good cheer
Also get to know others
In electee groups.

Michigan Rugby!
Evan Noon

This past weekend the University of Michigan's Rugby Football Club (UMRFC) took on the Air Force Academy's rugby team. It was an exciting season opener as UMRFC recently moved up to Division 1. Air Force, currently ranked in the top ten nationwide for rugby, has been playing in the top division of collegiate rugby for several years so in some ways was a preview to what UMRFC could potential face in upcoming games. Unfortunately, the experience of playing in the highest division for several years paid off and the Air Force won both the A game and B game. However, UMRFC did not let this bring them down as they prepare for the game against rival, Michigan State, on September 22nd. For more information about game times or locations and about how to join the rugby team visit: mrugby.com.



Philadelphia Cheesesteak Primer

Kevin Joseph

When I found out I was going to be living in Philadelphia, there was one thing I immediately added to my

to-do list: Eat a fabled Philly cheesesteak. I had heard that they were one of the tastiest meals available, and I was determined to find that out for myself.

In case you are unfamiliar with cheesesteak lore, when

people talk about Philly cheesesteaks they are typically referring to two places: Pat's and Geno's.

Pat's was founded

in 1930, while Geno's came by in 1966. The traditional

cheesesteak is made with thinly sliced rib eye steak and Cheez Whiz, and can be ordered "wit" or "wit-out" onions.



You can also add peppers or use American or Provolone cheese.

My conclusion: Philly cheesesteaks are freaking amazing, and deserve their reputation. However, while I think Pat's is better than Geno's, they were both merely mortal.

In my time in Philly, I learned from the locals that there was an

even better place, known as Jim's Steaks. This place has been around since 1939, and their cheesesteaks can only be described as GODLIKE.

When Zeus and Thor want to hit up Philly for some cheesesteaks, Jim's is the place they go to. Not only do the cheesesteaks taste better, they are also cheaper and usually easier to get to.

This is not an advertisement though, so I encourage you to try

them for yourself. If you're feeling adventurous, you could do the cheesesteak trifecta: Eat a cheesesteak from Pat's and Geno's, then walk around 15 blocks to Jim's and have one of theirs. You won't need to eat again for at least 36 hours! (At least that was my personal experience. Results may vary.)

BONUS Trivia Question: How many times does the word cheesesteak appear in this article?

References:

<http://www.jimssteaks.com/>

<http://www.patskingofsteaks.com/>

<http://www.genosteaks.com/>

TMA—Too Many Acronyms (Or my summer at Orbital Sciences)

Daniel Becker

This summer, I worked at Orbital Sciences Corporation (located in Dulles, VA near Washington DC), a company that specializes in building satellites, launch vehicles, and other types of spacecraft. This was my second summer there, and I was lucky enough to be able to work on my favorite Orbital project: Cygnus.



Cygnus, the ISS, and SPACE

Cygnus is one of the projects that has received funding from NASA's Commercial Orbital Transportation Services (COTS) program to deliver cargo to the International Space Station (ISS). Some of you may have heard of SpaceX's Dragon, which launched earlier this summer and is also part of COTS.

While I have worked at Orbital previously, this summer I got to work in their Integration & Test (I&T) department. There, I frequently worked in the cleanroom to help support testing of the Cygnus vehicle in its various stages. The first few weeks were spent performing Safe-to-Mate (STM (as

you may have noticed, aerospace engineers are obsessed with acronyms)) tests. While they weren't the most complicated of procedures (I spent hours probing test points with a Digital Multimeter (DMM)), it did give me the amazing opportunity of working *inside* of a spacecraft in the cleanroom.

The testing process for any spacecraft takes months, and Cygnus has been in testing for even longer because it will ultimately be interfacing with the ISS (and, you know, it's awkward to crash into multi-billion dollar

sums of human technology and possibly endanger astronauts). However, several of the Cygnus units were nearing the end of their testing cycle, and I was able to help with their Final Integrated Systems Test (FIST).



Dan, "helping" with FIST

Surprisingly, FIST is actually one of the most boring phases of testing (This is good. Exciting testing usually means that Bad Things are happening). FIST testing is controlled by a series of carefully written scripts that activate and check various parts of the spacecraft in a thorough manner. The operators are required only to activate the scripts, check the results, and (this is the hard part)

find out why the results aren't what they were expecting and figure out what to fix. I assisted this process by improving several scripts and acting as operator for a few tests.

Even though I worked at Orbital from May to the end of August, there are still plenty of other tests that I never got to participate in, such as Thermal Vacuum (TVAC) environmental testing, and what

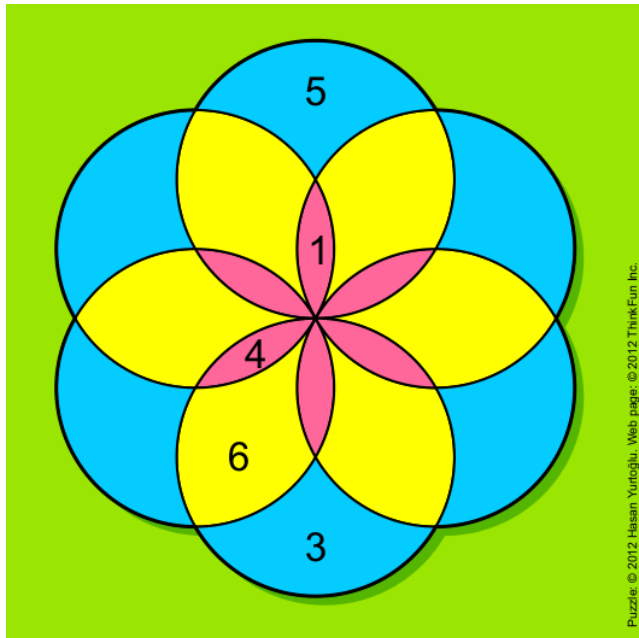
is known as acoustic testing, in which a rock concert supply company is called in to help us out with simulating the dynamics of a launch environment.

Throughout the summer, there were a lot of other things to do as well. Together with the other interns, we visited Washington, DC several times, watched a baseball game, went a place called Rebounderz (featuring nearly infinite bouncing via a multitude of trampolines on the floors AND the walls), and generally had as much fun as could be had in the DC area.

Exciting things are happening at Orbital Sciences (and in the private space industry in general), and when the first Cygnus launches in December (hopefully), I'll be proud to know that I able to personally be a part of its final assembly and testing.

Puzzles!!!!

Guaranteed to bend your mind
& stymie your wits!



Fully fill in Hasan's flower with missing numbers observing the rules:

- 1) Put one number per color part.
- 2) Parts of the same color must contain all numbers, 1 through 6.
- 3) Each complete circle must contain all numbers, 1 through 6.

The Gadget Company Riddle (Shelly Hazard)

The Gadget Company's Quality department has been very busy this week with a customer request. Their failure analysis group has been asked to process a large batch of parts that failed at the customer's site and to provide failure analysis reports to determine why the parts failed. So far, the parts that the failure analysis engineers have processed failed from a variety of reasons – anything from a simple bent pin to a bad solder connection on the printed circuit board. Determine the full name of each failure analysis engineer, the name of the printed circuit board that the problem was found on, and the specific problem found for each part.

A note from the Publicity Chair...

Hey guys, in case you don't know me, I'm Nick Ruff, one of your TBP Publicity Chairs along with Ryan Chen. In charge of the Cornerstone, I have the power to give YOU an hour of community service by doing a very important community task: outreach.

Is there an event coming up you want to spread the news on? Is there an interesting philosophy you developed over the summer? Got any good advice for undergrads, for grads, for anyone, for everyone? Put together a travelogue, a blog, whatever. What's going on around campus? Off campus? Underneath campus? I want your articles.

Get 1 hour of service for a 15-30 minute article & reach your fellow Tau Bates!

Thanks for reading this shameless plug,

And more importantly,

Thanks for reading the Cornerstone enough to
get to the back page... :)

~ Nick

1. Don, whose last name wasn't Nichols, didn't find the broken wire problem. Lewis found the problem on the daughter board but it wasn't a bent pin.

2. Wayne Collins didn't find a problem on the processor board. The problem on the mother board was a bad part.

3. The engineer whose last name was Garnet found the problem on the power board. Wayne didn't find the problem on the controller board.

4. Ryan's last name wasn't Hart. The bad connection problem was found by the engineer whose last name was Flume but it wasn't on the mother board.

5. The five engineers were Steve, the engineer whose last name was Hart, the one who found the problem on the mother board, the one who found the bent pin problem, and the engineer who found the problem on the processor board.

6. The bent pin problem was found by the engineer whose last name was Nichols. The solder short problem wasn't found by Steve.