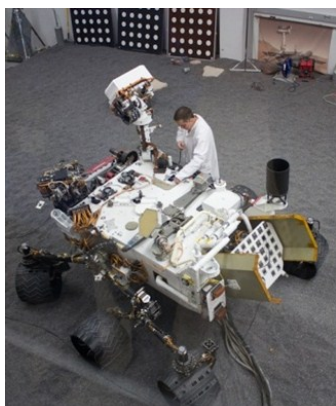


Dream Vacation for an Aerospace Engineer

By Nathan McKay

During spring break a group of 16 aerospace engineers took a grand tour of Southern California (SoCal), visiting 8 of the top aerospace research and production facilities. Known as the “Aerospace Dream Tour,” this event was organized by Michigan’s AIAA chapter, which leveraged its network to arrange tours at JPL, Boeing, Northrop Grumman, SpaceX, Lockheed-Martin “Skunk Works,” Scaled Composites, Pratt & Whitney Rocketdyne, and Edwards Air Force Base. Details of this trip were documented on a blog the AIAA president Steve Harris kept throughout the trip. You can view this blog at <http://aeroscholar.com/>. A day-by-day breakdown summarizing our trip is given below:



Monday: On Monday we toured NASA’s Jet Propulsion Laboratory (JPL) and Boeing’s C-17 production facility. JPL is responsible for almost all of the deep space probes NASA sends to the other planets. Among other things, we saw where the new Mars rover known as Curiosity (the Mars Science Laboratory, currently on its way to Mars) was made. We noticed an engineer in a clean suit was using the iHandy app on his iPhone to find the inclination of the MSL engineering model. Later that day we saw C-17 Globemasters in various stages of their construction. It was humbling standing next such a large aircraft in its infancy. Some of the construction techniques were very unique, and we learned some surprising facts on the type

of damage this military aircraft can take and still stay in the air.

Tuesday: On Tuesday we toured Northrop Grumman and SpaceX. At Northrop we toured the composites facility and walked down the F-18 Super Hornet production line. Looking at fighter jets never gets old for an aerospace engineer, and seeing their half build structure and internal guts gave us all goose bumps. We then toured SpaceX, which pretty much blew the socks off the space geeks in the group (myself included). Everywhere you looked there was space hardware, including a new rocket engine the tour guide told us we should probably not be looking at. We stuck our head into that Dragon capsule mock up, watched their mission control room in action during a test run for the upcoming launch, and ate some of the free frozen yogurt the employees enjoy every day at the expense of a bet lost to Elon Musk. Did I mention the Iron Man movie was filmed here?



Iron Man thinks rockets are cool.

Wednesday: The mind-blowing tours continued on Wednesday when we took a very exclusive tour of Lockheed’s Advanced Development Programs facility, commonly known as the Skunk Works. This is where a lot of the top secret aircraft are developed and built. Most of us never thought we

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Upcoming Events:

- KnitWits—3/7
- New Initiatives 4—3/8
- IM Volleyball—3/8
- Cancer Center—3/9
- Southeast Michigan Science Fair—3/9
- Mindset I—3/10
- Engineering Futures: Effective Presentation Skills—3/10
- Starcraft II Tournament—3/10
- IM Inner Tube Water Polo—3/12

More information online at

<http://tinyurl.com/7bjlppo>

IM Roster Sign Up at

umich.athleague.com



Dream Vacation for an Aerospace Engineer (cont'd)



Dan and an F-1 engine.

would have a chance to step foot in this facility without working for them. There we had a chance to get down and dirty with the P-791, an experimental aerostatic/aerodynamic hybrid airship. The day kept getting better with a trip to the Mojave Spaceport and a tour of Scaled Composites. One of the most interesting aircraft they developed and built is the Space Ship One spaceplane, a suborbital vehicle which won them the X Prize. There TBP members (Dan Becker and myself) piloted the suborbital flight simulator, launching the spaceplane to the edge of space.

Thursday: On Thursday AIAA members took a tour of two of Rocketdyne's production facilities. Rocketdyne is responsible for building the F-1 rocket engine; the enormous monster that combined with four other engines put a man on the moon. They also built the Space Shuttle Main Engines, among others. If you want to see their handy work head over to the FXB.

Friday: Our grant tour concluded on Friday with a bang, literally. We were sitting in a conference room on the secure military base eating lunch and a loud noise, which sounded like someone dropping something on the roof, shook the room. It was a sonic boom! We had a chance to shake the wing of a Global Hawk (a surveillance UAV) to view the vibrational modes, and saw plenty of jets in the

air, including tow F-22 raptors. We saw the F-35 (the new Joint Strike Fighter) with our own eyes, and got up close to an F-16 and its various tools of destruction.

There is no question that this trip is basically the best possible way an aerospace engineer can spend a week short of flying in a fighter jet or traveling into space. However, not everything was official business. There were a lot of conventional fun activities we did as well. For instance, on Thursday, after our tour of Rocketdyne, we piled into our inconspicuous 12 passenger white van headed to Santa Monica for some beach time. There we took a short walk to Venice Beach to do some people watching, check out the set of American Ninja Warrior, and get some tattoos. Needless to say, it's a pretty crazy place! Once the Sun set we drove to Hollywood Blvd for dinner and some live music at the Hard Rock Café. We also spent some time hanging out with employees from SpaceX and Scaled Composites and made use of the hotel hot tub. All in all, a perfect spring break trip. We are all extremely grateful to everyone that made this trip possible.

If you are interested in joining Michigan's AIAA chapter (and you should because AIAA regularly does awesome field trips and flies planes around AA at almost no cost to their members) please contact umichiaiaa@gmail.com and ask how you can be a member. All majors welcome! ◇



AIAA for life!





Computer Science Battle Rap

By Nick Ruff

“Hello World!” I whisper in my sleep,
counting pointers instead of counting sheep.
I’m breadth-first but I go deep
and I’ll fix you all up and down the heap!
Got algorithms so fast I’m O of minus N,
I’m a go-to and you a has-been.
My loop counter is greater than or equal to ten
and I’ll never flush my stream again.
Doing some programming, are we?
Is that a segfault on your screen I see?
You seem to be looping indefinitely!
You should proly hit that Control-C
and while you’re at it touch up on your C
cuz it seems to me you a script kiddie
And you’re leaking memory cuz you forgot to delete!
You got valgrind errors on repeat
My space complexity got you beat
I’m incrementing while you on retreat!
For i equals zero and less than y,
I’ll show you $i*2+1$ reasons why
you should kiss your career goodbye
for each null token you identify!
Do you catch what I try?
Imma pop you off the stack
you’re not ready for this hack attack
your mom better pack you a late night snack
because you’ll be debugging for days and days, back
to back!
Staying up in a mental daze it’s a wonder you not on
crack
I’ll code in a haze and still get back on track.
You might say, modesty is something I lack
well your system shuts down and your screen turns
black!

Your memory’s leaking through the hole in the
ozone,
Is that an exception you’ve thrown?
Your binary tree is overgrown
but I’m sitting on the programming throne
and hey I’m not forever alone.
Go ahead, complain and moan,
but I’m already in the coding zone.
If you’re trying, it hasn’t shown!
Know C++ like the back of my hand,
Tho you so uncertain, you always call rand().
You see, I will get the things I demand-
And if I pound include you, you’re under my com-
mand.
And if I don’t exclude you, you can eat out of my
hand
while the other’s typing in languages you don’t under-
stand!
I spit up the above, uploaded, and hit submit
thinking to myself “yea I nailed that shit”
my rhymes are at times exquisite,
like limes that slime my fingers with citrus
and my flow, although exotic, is hypnotic,
over imaginary beats highly melodic.
But as I submitted I saw something demonic
A blank screen with a number and some odd shtick,
as if I’d found the underground sound for a limerick,
but the three words fell me quick to the ground
I had to get my bearings, look hastily around,
making sure nobody saw and frowned,
for the warning said, “404 FILE NOT FOUND”
<<EOF
◇



The Best of GetMotivated

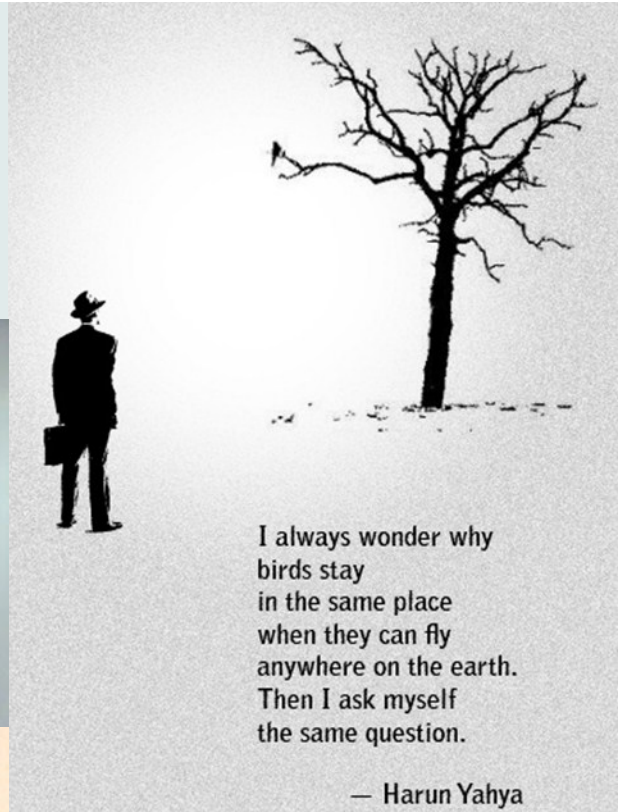
Submitted by Kevin Joseph

"Remember that guy that gave up?
Neither does anybody else"

"THE PESSIMIST COMPLAINS ABOUT THE WIND;
THE OPTIMIST EXPECTS IT TO CHANGE;
THE REALIST ADJUSTS THE SAILS."
WILLIAM A. WARD

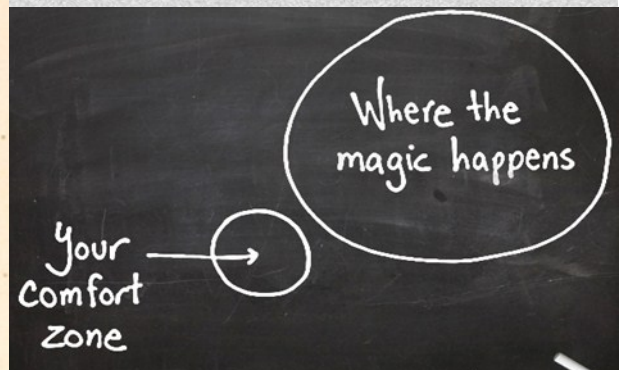


"Dude, suckin' at something
is the first step to being
sorta good at something."



I always wonder why
birds stay
in the same place
when they can fly
anywhere on the earth.
Then I ask myself
the same question.

— Harun Yahya



**IF IT IS IMPORTANT
TO YOU, YOU WILL
FIND A WAY.**

**IF NOT,
YOU'LL FIND
AN EXCUSE.**



Concert Recommendations

By Ryan Chen

Tuesday, March 6, 9:00pm, The Blind Pig – Black Milk with J. Pinder, A.Dd+, and Metal Apes

\$15 Cover, 18+ http://en.wikipedia.org/wiki/Black_Milk

Thursday, March 8, 8:00pm, Hill Auditorium – Symphony Band

Free – no tickets required

Chorale and counterpoint are two primary compositional techniques. Both are explored in traditional and unique ways through this wide-ranging repertoire. Percussionist Jonathan Ovalle, a new faculty artist, appears as soloist in Joseph Schwantner's massive Percussion Concerto. European marches provide a toe-tapping thread of fun throughout the evening. PROGRAM: Alwyn – Fanfare for a Joyous Occasion; Vaughan Williams – Toccata Marziale; Schwantner – Percussion Concerto; Hindemith – Konzertmusik Opus 41; Lauridsen – O Magnum Mysterium; Hanssen – Valdres; Tiedke – Old Comrades.

Saturday, March 10, 2:00pm, E.V. Moore Building, Britton Recital Hall – Horn Studio Recital

Free – no tickets required

Students of Adam Unsworth and Bryan Kennedy will play quartet selection from the horn chamber music repertoire.

Sunday, March 11, 7:30pm, Hill Auditorium – Concert Band and Michigan Youth Concert Band

Free – no tickets required

PROGRAM: George – Firefly; Schwantner – From A Dark Millenium; Ticheli – Blue Shades; Sousa – Pride of the Wolverines.

YouTube Video of the Week

John Branyan—The Three Little Pigs

Submitted by Mike Hand



John Branyan performs the classic tale of the Three Little Pigs as if Shakespeare had written it.



Puzzles of the Week

Sudoku

Instructions: Fill in with the numbers 1-9. Each row, column and group of squares enclosed by the bold lines, must contain each number only once.

3	9	1			6			7
	5							2
	2		5	9		4		
		8			2	3		
5			6		7			4
		6	4			5		
		5		6	9		4	
7							1	
4			7			6	8	9

	1	9		5			2	
	6			4	7	9		
				2		5		
	3	4		6				7
			2		9			
3				1		7	5	
		2		8				
		8	1	7			9	
	2			9		4	6	