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Renowned Speakers Talk at SP

Last November 13th we marched in lockstep to hear Wolfgang Ketterle, the 2001 Nobel Laureate, talk at SP about the remarkable scientific feat of creating matter colder than interstellar space. Five days later, Noam Chomsky, the world-renowned linguist and leading dissident political scholar in the US, came to talk at SP, too. Just about a month earlier, Bob Langer, the drug delivery guru, had opened the SP Lecture Series, followed by Andrew Landahl and Angela Belcher.

What is happening? Who convinced these famous and busy professors to come and talk at our dorm?

Sidney Pacific Lecture Series

By: Committee on Scholarly Interactions (COSI)

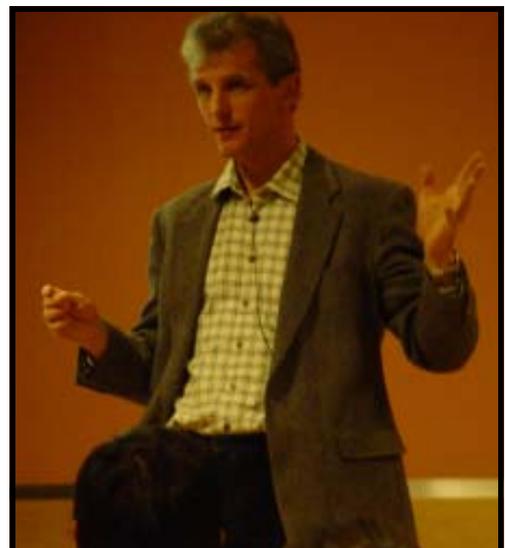
The Sidney-Pacifc Committee On Scholarly Interactions (COSI), adds a new dimension to community life in a graduate residence. While social events definitely make a residential community vibrant, the goal of this committee is to create an atmosphere for very informal interaction between faculty and students with diverse backgrounds and also encourage interactions between residents themselves. As a part of this mission, we organized a series of lectures by some of the distinguished faculty and pioneers in their own areas at our dorm. These lectures are aimed at a general audience and provide glimpses of the wide variety of research going on-campus. Over the course of the semester, the S-P Lecture series has become a premier event on campus bringing some of the most well-known members of the MIT community to a social setting that is Sidney-Pacifc. The residents of Sidney-Pacifc also responded with a high turnout in each of the lectures.

The talks were held on Thursday evenings at 5:30pm at the Sidney-Pacifc multipurpose room. Each lecture was followed by a dinner at the Housemaster's (Roger and Dottie Mark) residence, where some students got a unique opportunity to interact

with the speakers at a collegial level. These talks were co-sponsored by the Society for Presidential Fellows, a program administered by Janet Fischer of the MIT Office of the



Institute Professor Noam Chomsky delivering a talk at SP (Photo by L. Saad)



2001 Nobel Prize Winner Wolfgang Ketterle (Photo by L. Saad)

Submit articles to
bernata@mit.edu

Provost. For more information about the talks and future events, please visit: <http://s-p.mit.edu/cosi>

There were five talks organized this semester including, "Biomaterials and How they will change our lives", by Robert Langer, "Quantum Information Science: Putting quantum weirdness to work", by Andrew Landahl, "Using Nature's Tool to Design Novel Hybrid Nanostructured Materials", by Angela Belcher, "Physics at the lowest temperatures ever achieved", by Wolfgang Ketterle, and "Language and Evolution", by Noam Chomsky.



Professor Robert Langer talking at SP. He knows how biomaterials will change our lives. (photo by L. Saad)



Angela Belcher couldn't say no when Ryan Tam offered her the SP coffee mug... honestly, who could? (photo by L. Saad)

Proposed TechShuttle to Sidney-Pacific

MIT's Parking and Transportation office is currently reviewing a proposal which will bring the TechShuttle to Sidney-Pacific and other NW dorms during the winter months. Normally, during the months of December to April, a second TechShuttle runs along the regular route during the hours of 8am – 11am. The current proposal is to partially re-route this second shuttle so that it can service residents living in the NW part of campus. More details can be found at web.mit.edu/gsc/www. Please direct any feedback to gsc-shuttle@mit.edu.

Announcements

Last year during the holiday season, we had a holiday tree in the multipurpose room, decorated with a few ornaments from various countries. Again this year, we are asking any of you to lend us such an ornament (of any style) to be hung on the tree during December – feel free to create such also, as I realize most of you do not come to MIT with a ready made ornament to be hung on a tree!!

Dottie Mark

On Thicker Ice

By: Natalija Jovanovic

Last year, MIT proved to be the most jealous of lovers. I was a first year student trying hard not to sink into severe depression because of classes, search for research, and a long distance relationship. It was difficult to face each day. The skies were dark and gloomy. Luckily I got enrolled in a figure skating class. Those couple of hours on the ice every week proved to be the saving moments without which

my sanity would have entirely dissolved. Skating taught me to laugh at myself, not to quit, and to get up after each fall.

Skating saved my sanity, but it also provided a way to keep in shape. If "hand-eye coordination" has come to mean typing 150 words a minute for you, then you're probably not spending enough time exercising. Skating is a great way to develop coordination: when your eyes see the ice coming closer, arms and legs coordinate so that you don't

smack your nose. And if you feel that your legs are no longer part of your body after a few hours of sitting at your desk as another simulation chugs along, skating is a great way to put your legs to work and develop some muscle. Skating develops the rest of your body too, depending how much you wave your arms around trying to keep your balance.

Ice lets you show off your skating skills or the ability to laugh at your own faults. You can meet cool people. There's always the tall guy for whom you know the ice is further down than for the rest of us. There's the guy "sacrificing" his pride to be taught how to skate by a bunch of cute girls. There's the dude, sooo cool, who believes that talking on his cell phone while skating will make him look cooler, even though he can barely keep his balance. Of course, there's the beautiful and skilled figure skating folk doing tricks in the center, while half the mortal skaters around them are ignoring them and the other half wishes they could do that Lutz. The figure skating folk are very cool, they get up from a fall and continue practice without any hesitation. In the end, there's a mystery person: short, but

fast and strong, skating par to the six foot two, two hundred pound hockey guys. In the end you realize that it is just a girl wearing a hooded sweatshirt.

The purpose of this article is to get you out of the study lounge and the lab, and onto the ice. "Why should I go?" Because I will drag you there. Well, I don't have enough time to drag each and every one, but I am on the ice Mondays and Wednesdays from noon to one in the afternoon and I will gladly hold your hand while you learn how to laugh and get up after a fall.

PS: The Johnson Rink opened about a month ago. It's ok if you didn't know. It wasn't as broadly advertised as the GradRat premiere. You didn't know about that either? Well, then, that might be a sign that you spend too much time in the lab. Any case, the rink is open. There are open skating hours when the rink is free to any and all who want to show off or embarrass themselves. Your choice! The hours are available from web.mit.edu/athletics website. Skate rental, figure or hockey, is \$3.

The Columbia Disintegration Was Not an Accident

By: *Pere-Andreu Ubach de Fuentes*

On October 28th NASA released the Report of the Columbia Accident Investigation Board (CAIB). After reading a significant part of it, my first conclusion was that the word "accident", which might be suitable for mass media purposes at the very early stages of the events, is not appropriate anymore. Let me explain that assertion. The word *accident* is most commonly understood by the following definition: "anything that happens without foresight or expectation; an unusual event, which proceeds from some unknown cause". After reading the report, this is not what the tragedy of the Columbia was about. I reserve the good qualification for myself, as anyone can draw its own conclusions.

I was in Burlington with the GSC ski trip when the Columbia burned out in its reentry flight back to Earth. One of my companions, a student of the Aero-Astro Department, his girlfriend, and I, spent several hours debating the possible causes of the accident. But we soon concluded

that NASA had done something wrong in order to allow the disaster to happen.

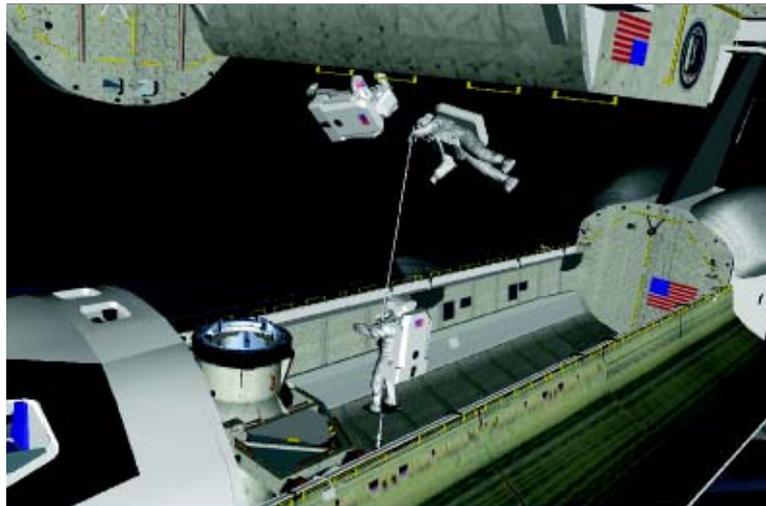
How right we were! Not only did NASA do something wrong to allow the disaster to occur, but it is shameful to find out that they could not have done it worse. By allowing the Shuttle to fly under unsafe conditions and considering clear and severe threats to be routine, they put the seed of the catastrophe. It is even more outrageous to find out how little and wrong leaded steps were taken to solve a problem of which NASA staff was aware during the 16 days of the mission.

In short, a piece of foam from the external tank came out and hit Columbia's insulation layer at a speed of about 500 mph. This event was recorded by on ground cameras during the launch. NASA engineers were worried about the effects of that hit. Instead of asking for evidences (space walk, pictures from militar satellites of ground stations), NASA relied in wrong assumptions and badly suited and uncalibrated software. NASA's course of action

was motivated in part by the need to go on with the space program, and the feeling that moving away from the schedule had very bad consequences for the program. While pressures do exist and are important, an engineer should always commit to give the best of him and honor the good engineering practices that make our profession the running motor of development.

My advice to all of us, after reading this report is: if you become managers (to earn more money) and go away from the engineering field, surround yourself with committed engineers and listen to them with the greatest concern and respect. Or listen to your little engineer-voice in your brain.

Finally, always remember that we are first and foremost human beings, and that human lives depend on our actions. It speaks very poorly on the human side of NASA managers that the only time they told the captain of the spacecraft about the foam hit during launch was as late as the 8th day of the mission:



As seen in this picture adapted from Columbia Accident Investigation Board Report, the rescue option had Atlantis (lower vehicle) rendezvousing with Columbia and the crew transferring via ropes

“Mission Control e-mailed Husband and McCool that post-launch photo analysis showed foam from the External Tank had struck the Orbiter’s left wing during ascent. Mission Control relayed that there was no concern for RCC or tile damage and because the phenomenon had been seen before, there was absolutely no concern for entry. Mission Control also e-mailed a short video clip of the debris strike, which Husband forwarded to the rest of the crew.”

While the actual concerns down on Earth are reflected by this script on day 7:

“In my humble technical opinion, this is the wrong (and bordering on irresponsible) answer from the SSP and Orbiter not to request additional imaging help from any outside source. I must emphasize

(again) that severe enough damage (3 or 4 multiple tiles knocked out down to the densification layer) combined with the heating and resulting damage to the underlying structure at the most critical location (viz., MLG door/wheels/tires/hydraulics or the X1191 spar cap) could present potentially grave hazards. The engineering team will admit it

might not achieve definitive high confidence answers without additional images, but, without action to request help to clarify the damage visually, we will guarantee it will not. Can we talk to Frank Benz before Friday’s MMT? Remember the NASA safety posters everywhere around stating, If it’s not safe, say so? Yes, it’s that serious. [SSP=Space Shuttle Program, MLG=Main Landing Gear, MMT=Mission Management Team]”

What was the purpose of that email? Only to make sure questions from journalists at a later press conference would not take astronauts by surprise.

Reference: <http://www.nasa.gov/columbia/home/index.html>