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Sciencedude

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ADVERTISING

Quick takes on the fast-moving world of science.

January 19, 2006

Stars gather at UCI

INTELLECTUAL HEAVIES COMING TO IRVINE

Several prominent figures from the world of science and innovation will speak at [UC Irvine](#) next week. Here's a preview so you can make plans to attend.

IF THE SHOE FITS

[Taryn Rose](#) will discuss how she made the transition from her career as an orthopedic surgeon to one of the nation's most popular shoe designers when she returns to her alma mater, UCI, on Jan. 24. Rose, who majored in biology and philosophy at UCI, will speak at 5:30 p.m. in room 100 of the Humanities Instructional Building.



THE CHEMIST'S CHEMIST

[George Whitesides](#), the Harvard University biochemist who has done everything from make it easier to study cells to deliver drugs in the human body, will visit UCI on Jan. 25 to give a talk titled "The Microtools of Biology." Whitesides, who was awarded the

National Medal of Science in 1998, will speak at noon in Crystal Cove Auditorium in the Student Center. Arrive early. A large crowd is expected.

THE HONOR ROLL

Three UCI professors who recently won a Distinguished Faculty Award will give back-to-back lectures at UCI's University Club on Ring Road, starting at 7 p.m. on Jan. 25.

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Physicist [Wilson Ho](#) will discuss "The Virtues of Being Single: A Molecular View," neurobiologist [Frank LaFerla](#) will talk about "Fading Memories / Saving Memories: The Study and Treatment of Alzheimer's Disease in Genetically Modified Mice," and biologist [Diane O'Dowd](#) will discuss "Biology 101: Bridging the Divide Between Research and Teaching in the Biomedical Sciences."

Posted by grobbins at 02:00 AM | [Comments \(0\)](#)

January 18, 2006

How to be a fly on the wall



LEGGING IT WITH FLIES

Watch for [Adam Summers'](#) "Biomechanics" column in the February issue of [Natural History](#) magazine. The UC Irvine researcher will explain how flies -- which have six legs -- are able to walk on surfaces like walls and glass.

"The feet of flies have little forests of what look like pancake spatulas that are compliant to surfaces, which gives them a lot of adhesive force," says Summers. "When they walk up walls they use a different gait than when they're walking down. And when they're walking upside down, on the ceiling, they use four of their legs, instead of using three, as they do when their on the side of the wall."

That's strange, but not as weird as the work of one of Summers' students, who is studying the feeding habits of [hagfish](#). Says Summers: "Hagfish have no jaws, just horrible tooth plates that come flying out to grab scraps of decaying meat off decaying animals."



CLEARING THE AIR

Writing about Summers reminded us that Irvine will be the site of an interesting talk today by Alan Lloyd, secretary of the [California Environmental Protection Agency](#). Lloyd will give a talk titled "Air Quality, the Environment and Energy, from Smog to Global Climate Change," at 7 p.m. at [Beckman Center](#), next to UCI's School of Medicine.

HEERE'S FRANK!

Frank Peters, president of the Orange County chapter of [Tech Coast Angels](#), a group of venture capitalists, has launched an interesting and quirky podcast in which he interviews Orange County's "titans of industry."



Actually, many of the guests on the "[Frank Peters Show](#)" aren't titans. But most are innovators in such fields as software, biotechnology and engineering. And Peters has the good sense to ask questions then button his lip and listen. I especially liked his recent talk with Nick Alexopoulos, dean of the [Samueli School of Engineering at UC Irvine](#).

"I'm trying to reach young entrepreneurs who want to know what's going on and people like me, who are investors," says Peters, who lives in Corona del Mar.

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Posted by grobbins at 02:00 AM | [Comments \(0\)](#)

January 17, 2006

UCI goes to 'bottom of the world'



AWED BY THE ANTARCTIC

UCI's [Don Blake](#) is still atwitter about his semi-recent trip to the Antarctic, where the atmospheric chemist went to conduct climate change research. He spent most of his time at [McMurdo Station](#) on Ross Island. But he also flew 793 miles farther south, to the geographic [South Pole](#). This was in mid-November. We gently boxed his ears for forgetting to let us know he was going -- punishment that wasn't nearly as bad as the big chill he experienced.

"It was 59 degrees below zero when I got to the pole -- and it was late spring there," says Blake. "It never gets warmer than minus 23 degrees, and it gets as cold as minus 100."

Blake flew to the South Pole in a C-130 transport plane that had large windows, providing a vista of the bottom of the world.



"There's not a lot of contrast," Blake said. "The colors are white and blue and gray. But I saw a glacier that was 4 or 5 miles wide and about 100 miles long. It was unbelievable. I never sat down from about the time the plane took off until just before it landed.

"The plane had skies and it seemed like it took forever to stop when he landed. We went to the research station, but later got to the spot where Amundsen and Scott stood back in 1911-12. It was very moving. But I was so cold I couldn't take my mask off. What a sissy."

Blake was referring to Norwegian explorer [Roald Amundsen](#), whose expedition was the first to reach the South Pole on Dec. 14, 1911. His team beat a team led by Englishman [Robert Scott](#), who arrived at the pole on this date in 1912.



Scott and the four other members of his team died on the return journey -- a tragedy chronicled in Scott's diary. As [wikipedia.org](#) notes, Scott wrote: "Had we lived I should have had a tale to tell of the hardihood, endurance and courage of my companions which would have stirred the heart of every Englishman."

"It ends with the words, 'We shall stick it out to the end, but we are getting weaker of course and the end cannot be far. It seems a pity, but I do not think I can write more. For God's sake, look after our people. R. Scott.' "

Blake enjoyed the relative comfort of the Amundsen-Scott South Pole research station. But the isolation was eerie, and so was the lack of sound.

"Walking around, I didn't hear anything. It was sensory deprivation. All you see is white or blue or gray skies."

Posted by grobbins at 11:13 PM | [Comments \(0\)](#)

January 16, 2006

Busting shark myths

SO YOU THINK YOU KNOW SHARKS

I've belittled much of the [Discovery Channel's](#) programming as being embarassingly shy on science. But I'm smitten with "MythBusters," a show in which two smart but goofy guys -- Jamie Hyneman and Adam Savage -- reveal the difference between fact and fiction on everything from vodka to confederate rockets.



The MythBusters also have addressed myths surrounding sharks. Here are some supplemental questions. Go ahead, see how well you do. The answers, researched and written by the Discovery Channel, are at the bottom. You can catch the next episode of "MythBusters" at 9 p.m. Wednesday.



1. Sharks' teeth are replaced continuously throughout their lives.
True or false?
2. Sharks can breathe only while they are moving, and must keep swimming to stay alive.
True or false?

3. All sharks are potentially harmful to people.
True or false?

4. Sharks will eat practically anything.
True or false?

5. Sharks must always roll to bite.
True or false?

6. Sharks can detect their prey without seeing or smelling it.
True or false?

7. Sharks have poor eyesight.
True or false?

8. If you are attacked by a shark, you should punch it in the nose as hard as you can.
True or false?



Answers: 1. True. 2. False. 3. False. 4. False. 5. False. 6. True. 7. False. 8. False.

Posted by grobbins at 10:37 PM | [Comments \(0\)](#)

January 15, 2006

OC pilot recovers "Stardust" in Utah



FLEMING SNAGS COMET DUST IN DESERT RECOVERY

Aided by a full moon, veteran Newport Beach helicopter pilot Cliff Fleming found and recovered the first capsule to carry the dust of a comet to Earth shortly after it lit up the pre-dawn skies today and parachuted on to a muddy salt flat in the Utah desert.

Fleming, 55, found the 32-inch container stuck in the desert floor about 2:40 a.m., roughly 30 minutes after the [Stardust](#) spacecraft's sample return capsule landed and bounced five times before coming to a stop at the Utah Test and Training Range, southwest of Salt Lake City.

"It's been a perfect night," Fleming told The Orange County Register by cell phone at 4:10 a.m. "God gave us a gigantic light in the full moon and that helped us locate the capsule, which was stuck in mushy dirt out there in the dark."



The 100-pound capsule contains dust that Stardust collected from Comet Wild 2 during a close fly-by in January 2004, when it was 242 million miles from Earth. The particles, and some interstellar dust that also was grabbed during the 3 billion mile journey, is expected to help scientists understand how the solar system formed and evolved.

The recovery comes about 16 months after the [Genesis](#) spacecraft, which held samples of the solar wind, crashed in a nearby region of Utah. Fleming was supposed to have used a hook attached to his helicopter to snag Genesis' parachute. But the chute never opened.

The tiny capsule entered the atmosphere at 1:57 a.m., traveling about 29,000 mph, or faster than any man-made object has ever return to Earth.

"I could see it from the ground. It was a big red shiny ball that turned into a streak that looked like it was more than a mile long," said Fleming, a stunt pilot who has worked on dozens of feature films and television commercials. "I've never seen anything like it. They (JPL) navigated it to Earth perfectly."

The capsule touched down at 2:10 a.m. Controllers gave Fleming the container's coordinates and he found the capsule's large parachute at 2:30 p.m., using a 30 million candlepower light attached to his helicopter. Minutes later, he spotted the capsule wedged into the desert floor.

"The capsule apparently rolled over so that we couldn't get a reading from its locator beacon," Fleming said. "An our infrared system didn't pick it up until we were almost there. But we found it."

Fleming dropped off a two-person crew, which inspected and packaged the capsule before loading it on to the helicopter for transport to a temporary clean room at Michael's Army Airfield. The achievement drew thunderous applause from controllers at JPL and an emotional response from Don Brownlee, Stardust's principal investigator.

Describing the capsule's descent, Brownlee said during a broadcast news conference, "It looked like Mars. It was twinkling a big and was moving. It kept getting brighter and brighter and brighter ...
"It's ironic that you have a comet mission that produces a comet."

Authorities were worried that they wouldn't be able to do a helicopter recovery. Snow was in the forecast. Flurries did fall for awhile. And strong winds blew. But the skies soon cleared and only light winds were blowing when Fleming touched down a short distance from the capsule. The two person recovery team, bundled up for protection against the 38 degree temperature, secured the capsule as Fleming hovered 200 feet above in his helicopter,

shining a "Night Sun" beam on them.

"Everything went very smoothly," said Fleming, whose next job is to drop test an experimental payload for NASA later this month while hovering more than 8,000-feet above the desert.

The capsule will be opened later this week after it is transported to Johnson Space Center in Houston.

Posted by grobbins at 03:42 AM | [Comments \(0\)](#)

January 13, 2006

Sciencedude Weekend: "Astronomy Jeopardy," antiquities and stardust



DARK MATTER FOR \$100, ALEX

Wanna a laugh? Drop by [Chapman University's Irvine Hall](#) at 7:30 p.m. Friday. They'll be playing "Astronomy Jeopardy" during the monthly meeting of the [Orange County Astronomers](#) club, which is open to the public. "It's the same as [Jeopardy](#), only the questions are all about astronomy," says Craig Bobchin, the club's vice president.

I've agreed to be a contestant. And I expect to be humiliated.

STORM WARNING

My science column in Saturday's Register will be a review of the [Weather Channel's](#) new weekly series, [It Could Happen Tomorrow](#), which debuts at 9:30 p.m. Sunday. The first episode speculates about what would happen if a Category 3 hurricane hit New York City. The show is short on science and heavy on hype. At that same hour on Sunday, "Passport to Pluto" will be airing on the [Science Channel](#). The show is a preview of [New Horizons](#), the spacecraft scheduled to be launched to Pluto on Tuesday.



ARCHAEOLOGY'S HUMAN TREASURE: ZAHİ HAWASS

Filmmaker Patti Rabbitt will visit [Bowers Museum](#) in Santa Ana at 1:30 p.m. and give a public preview of what she's calling a "character-driven, reality based film on internationally famous archaeologist [Dr. Zahi Hawass](#). The film serves as an unscripted, behind-the-scenes glimpse into the management style of Dr. Hawass."

Hawass, secretary general of the Egyptian Supreme Council of Antiquities, is beloved for his efforts to return precious artifacts to Egypt, his homeland.

STARDUST RETURNS

At 1:57 a.m. Sunday, a tiny capsule containing dust collected from Comet Wild 2 will streak into Earth's atmosphere en route to a landing in the Utah desert, ending the [Stardust](#) mission. The capsule is scheduled to parachute on to the [Utah Test and Training Range](#), southwest of Salt Lake City, at 2:12 a.m. The cannister will be recovered by Newport Beach pilot Cliff Fleming, who will fly a recovery team to the landing site, if the weather is decent. You can watch events unfold on NASA TV, available [here](#). Coverage begins at 1:30 a.m.

Posted by grobbins at 11:11 PM | [Comments \(0\)](#)

January 12, 2006

O.C. pilot to grab Stardust capsule



FLEMING IN A NEW DESERT DRAMA

Cliff Fleming, a veteran helicopter stunt pilot from Newport Beach, was supposed to grab the [Genesis](#) spacecraft out of midair in September 2004. He never got the chance. The spacecraft, carrying samples of the solar wind, did a face plant in the [Utah desert](#) when its parachutes failed to open. It was a nationally televised embarrassment, although scientists were able to retrieve some samples from the capsule.

Almost a year and a half later, Fleming is taking the lead on an equally important mission. Before dawn Sunday, he's scheduled to find [Stardust's](#) sample return capsule, which will parachute into the Utah desert -- *if* its chutes open. Fleming,

president of Orange County's South Coast Helicopters, will be carrying a retrieval team. He'll be followed by a second helicopter that will be co-piloted by his son, Cory.

We called Fleming in Utah to ask a few questions about the Stardust gig, which involves recovering the first dust directly captured from the tail of a comet.

Question: What will you be doing when Stardust's return capsule enters the atmosphere on Sunday?

Answer: We'll be on the ground, in a staging area, waiting for the Air Force to give us GPS coordinates of where the capsule lands. We won't take off until it touches down. We don't have to capture this one out of midair (as he was scheduled to do with Genesis.)



Q: Will it be hard to find the return capsule?

A: The Air Force will be tracking it with radar that could track it all the way to the ground. And the capsule has a locator beacon. But flying at night in the desert is difficult. We're installing an infrared system on the helicopter that detects heat. It's possible that the capsule, once it's landed, will still be 100 degrees centigrade (or about 212 degrees Fahrenheit.)

Q: How hard will it be to see the ground during flight, while you're flying 80-90 mph?

A: There will be a full moon, which helps -- if the weather isn't overcast. But it'll still be difficult because there won't be a clear horizon. The helicopters we're flying are equipped with special gear that will assist the pilot and co-pilot. But we won't fly if it's [snowing](#), which can happen this time of year.

Q: You do a lot of risky work flying helicopters while filming TV commercials and movies. You flew just above the streets of Chicago while shooting a "Batman" movie. And you were aerial coordinator on "Mission Impossible 3," which involved having helicopters fly between the turn blades of windmills near Palm Springs and Fontana. And this was at night. What's more dangerous -- the movie work or your work for NASA?

A: It's probably more nerve-racking flying through the windmills at night. That takes a lot of practice. But retrieving this space capsule also will be difficult because we're doing it in the middle of the winter, in the desert, at night.

Posted by grobbins at 11:11 PM | [Comments \(0\)](#)

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