

Students dance their hearts out at Dance Show



MONICA ENLOW
Editor-in-Chief

Following a great performance, dancers take a bow at the conclusion of the Caltech Dance Show
Photo courtesy of Allison Maker

This weekend, the Caltech Dance Show kicked off with tons of energy. The show featured twelve dynamic acts this year. According to one of the show's co-organizers, and member of the Caltech Dance Team, Sue Qin, this year's show was shorter than the previous two years and featured less soloists, "but the dances featured were diverse and well rehearsed." Only two of the acts were soloists, however; co-organizer Greg Donaldson thrilled the crowd this year with a break-dance performance to Zedd's "Clarity."

The newly formed Caltech Dhamaka dance group organized a very upbeat and action packed final number. Ellora Shakar, co-

organizer and member of Caltech Dhamaka, enjoys being a part of this show because "It gives dancers on Caltech's campus a chance to be appreciated for the work they do." Anyone who attends the dance show can testify to the fact that every dancer on stage puts their best foot forward and that their positive energy is contagious.

A behind the scenes organizer Sophie Banholzer enjoys her involvement with the show because she finds dance to be a great break from the stress of Caltech classes. Everyone involved can agree that the dance show is a spectacular opportunity to showcase a creative and active side of the Caltech community.



Want to see more pictures from the dance show? Turn to page 4!

Faculty members admitted to renowned science academies

CYNTHIA ELLER
Caltech Today

Three professors at Caltech have been elected to the prestigious National Academy of Sciences. The announcement was made Tuesday, April 29, in Washington D.C.

The new Caltech electees are Gregory C. Fu, Altair Professor of Chemistry; Fiona A. Harrison, Benjamin M. Rosen Professor of Physics; and John P. Preskill, Richard P. Feynman Professor of Theoretical Physics.

Fu is a synthetic organic chemist focusing on transition-metal catalysis and nucleophilic catalysis. He is currently developing enantioselective reactions and exploring the use of copper and nickel catalysts. In 2012, Fu won the Award for Creative Work in Synthetic Organic Chemistry from the American Chemical Society. He is a fellow of both the American Academy of Arts and Sciences (2007) and the Royal Society of Chemistry (2005).

Harrison specializes in observational and experimental high-energy astrophysics.

She is the principal investigator for NASA's NuSTAR Explorer Mission. Harrison is recognized for her leadership in the design, development and launch of NuSTAR, as well as leading the team in the mission's scientific return. As a result of almost two decades of technology development, NuSTAR is revolutionizing our view of the high-energy X-ray sky. Harrison was elected to the American Academy of Arts and Sciences in 2014, was elected as a fellow of the American Physical Society in 2012, and won a NASA Outstanding Public Leadership Medal in 2013.

Preskill is a theoretical physicist who began his career in particle physics (in particular, the interface between particle physics and cosmology) before moving to a specialization in quantum information and quantum computing. In 2000, Preskill founded the Institute for Quantum Information with the aim of harnessing principles of quantum mechanics to aid in particularly challenging information-processing tasks. He is a fellow of the American Physical Society.

The National Academy of Sciences is a private organization of scientists and engineers dedicated to the furtherance of science and its use for the general welfare. It was established in 1863 by a congressional act of incorporation signed by Abraham Lincoln that calls on the academy to act as an official adviser to the federal government, upon request, in any matter of science or technology.

The election of Fu, Harrison, and Preskill brings the total Caltech membership to 75 faculty and three trustees.

The American Academy of Arts and Sciences has elected three Caltech faculty members as academy fellows. They are John F. Brady, Chevron Professor of Chemical Engineering and Mechanical Engineering and executive officer for chemical engineering; Kenneth A. Farley, W. M. Keck Foundation Professor of Geochemistry and chair of the Division of Geological and Planetary Sciences; and Fiona A. Harrison, Benjamin M. Rosen Professor of Physics.

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Prof. Markovic bestowed with membership into Royal Society

KIMM FESENMAIER
Caltech Today

Vladimir Markovic, the John D. MacArthur Professor of Mathematics at Caltech, has been named a fellow of Great Britain's Royal Society. He is one of 50 new fellows and 10 foreign members elected in 2014. Markovic's election brings to seven the number of fellows and foreign members of the Royal Society currently on the Caltech faculty.

Membership in the Royal Society is bestowed each year on a small number of the world's scientists. The oldest scientific academy in existence, the Royal Society was established in 1660 under the patronage of King Charles II for the purpose of "improving natural knowledge," and it helped usher in the age of modern science. Today, the society seeks to promote science leaders who champion innovation for the benefit of humanity and the planet.

Markovic studies the shapes and structures of mathematical spaces called manifolds. A line is a one-dimensional manifold while a plane would be two-dimensional. In its citation for Markovic, the Royal Society wrote, "Markovic is a world leader in the area of quasiconformal homeomorphisms and low dimensional topology and geometry. He has solved many famous and difficult problems. With Jeremy Kahn, he proved William Thurston's key conjecture that every closed hyperbolic 3-manifold contains an almost geodesic immersed surface."

In 2004, Markovic received awards recognizing his early career achievements from the London Mathematical Society and the Leverhulme Trust. In 2012, he was awarded the Clay Research Award. Earlier this year, he was an invited speaker at the International Congress of Mathematics in Seoul, South Korea.

Born in Germany, Markovic earned a BSc and PhD from the University of Belgrade in Serbia in 1995 and 1998, respectively. Before joining the Caltech faculty as a professor in 2011, he was an assistant professor at



-<http://www.caltech.edu/>

the University of Minnesota, an associate professor at SUNY Stony Brook, and a professor at the University of Warwick.

Markovic is currently on leave, teaching at the University of Cambridge.

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Caltech Y Column

PHOEBE ANN
Contributing Writer

UPCOMING EVENTS

1. How Scientific Publications affect Science Policy: A conversation with Professor Raymond Deshaies

Thursday, May 8th - 12:00 to 1:30 PM | Hill Annex | Lunch is provided, but space is limited. RSVP required

Raymond Deshaies is Professor of Biology in the Division of Biology and Biological Engineering at Caltech and an Investigator of the Howard Hughes Medical Institute. In addition to his academic work, Dr. Deshaies co-founded Proteolix in 2003. Proteolix prosecuted development of Kyprolis through phase II clinical trials. Kyprolis was approved by the FDA in 2012. In 2011, Dr. Deshaies co-founded Cleave Biosciences.

The Caltech Y Science and Policy Series invites members of the Caltech community who have played a role in the formation, implementation, or evaluation of science policy to interact with a small group of interested students over an informal lunch. Funding for the Science and Policy Series was provided through the George Housner Fund. Questions can be directed to the Y at 626.395.6163 or caltechy@caltech.edu.

2. Wilderness Skills Trip

Sunday | May 11th | 8:30 AM to 4:30 PM

Join the Caltech Y Outdoor Adventures group for a day of hiking, learning wilderness skills, and sustainable gardening. On Sunday, May 11, we will travel to a 3,000 acre educational center and ranch in Simi Valley for a full day of activities. First, we will hike to a formation of sandstone caves in a ridge high above Simi Valley, then we will learn wilderness skills such as making a fire without matches and finding directions and navigating without a compass. The hike will be about six miles long with moderate elevation gain. Finally, we will learn about the sustainable garden on the grounds of the educational center and do a little work in the garden as a service project. There is a strict limit of 20 people for the activities, so sign up soon to secure a spot. You can sign up at this link: goo.gl/702ykR or email Jeremy Sandler at jsandler@caltech.edu with any questions.

3. Les Miserables the Musical - Caltech Y Explore LA Series

Sunday | June 1st | 2:00 PM | La Mirada Theater | \$15

Transportation is NOT provided. Ticket Sales begin 12:30 PM, Wednesday, May 7 at the Caltech Y.

This offer is for students only; students purchasing tickets are permitted to purchase tickets for up to one guest (can be a non-student). Explore LA is coordinated by the Caltech Y with generous support from the Master of Student Houses. The Caltech Y is located in the Tyson House 505 S. Wilson.

Email Christine Chou at cschou@caltech.edu if you have questions.

4. Caltech Y India Cultural Trip - Applications Available Now

December 13th - 23rd, 2014 | Cost: \$950 | Applications Due Tuesday, May 20th by 5:00 PM

The Caltech Y, in partnership with the SURF Program and IIT Gandhinagar (IITGN) in India, is coordinating a trip to Ahmedabad, India. Join us for an exciting trip as we explore India as an emerging nation and its potential role as a global leader in the context of its history and culture. The Caltech group will be hosted by IITGN and discussions and trips will be led by IITGN faculty.

The trip is open to undergraduate students only - sorry no graduate students. Applications can be found on the Y website and are due by 5 pm, May 20th. Questions may be directed to caltechy@caltech.edu. Space is limited.

5a. Pasadena LEARNS

Every Friday | 3:00 - 5:00pm | Madison and Jackson Elementary School | Pasadena

Come volunteer at Madison and Jackson Elementary School! We are partnered with the Pasadena LEARNS program and work with their Science Olympiad team or do regular tutoring along with occasional hands-on science experiments. Transportation is provided. For more information and to RSVP, contact vkumar@caltech.edu.

5b. Hathaway Sycamores

Every Saturday | 1:30-4:30pm | Highland Park

Volunteer at Hathaway-Sycamores, a group that supports local underprivileged but motivated high school students. Some of the subjects being tutored are AP Chemistry, AP Physics, and AP Calculus. The service trip includes about an hour of travel time and 2 hours of tutoring. Transportation is included. For more info and to RSVP Email Josie Kishi at jkishi@caltech.edu or Ted Xiao at gxiao89@caltech.edu. Please note that work study is no longer be offered for this service trip.

6. Washington Elementary School Science Fair Judges

Tuesday | May 6th | 8:00 am - 10:30 am | Washington Elementary School (1520 N. Raymond, Pasadena) | Transportation Provided by Collective Voices

Science Fair Judges are needed for the Washington Elementary School Science Fair. Judges evaluate projects and ask questions. Washington Elementary is the new STEAM magnet school in Pasadena Unified School District. Email Diana Fisher at dfisher@collectivevoices.org to volunteer.

If you have any questions, feel free to contact the Caltech Y at (626) 395-6163 or caltechy@caltech.edu. Also feel free to drop by at one of our weekly meetings at the Caltech Y (located at 505 S. Wilson).

Hima Gudipati named Watson Fellow

PETER BUHLER
Contributing Writer

What do Italy, South Africa, New Zealand, Nepal, and Norway have in common? Those countries are where Hima Hassenruck-Gudipati will travel next year as a Watson Fellow and ply her geology and mechanical engineering skills to explore climate change in the past, and the interplay between climate change and human endeavors in the present and future. The Watson Fellowship will provide her with \$28,000 to pursue her project and explore the world. The rules: (1) follow your dreams and (2) go travel outside the USA for twelve months.

I just returned from a year of travel as a Watson Fellow, studying evolution and the origins of life, after graduating from Caltech in 2012. Hima and I have been good friends for several years now, and I'm really excited for the opportunity she has next year. We wanted to share our experience and excitement with the rest of the Caltech community.

Peter (me in third person): Why did you pick this set of countries to travel to?

Hima: I picked them primarily for the scientific opportunities but, of course, this set of countries offers a diverse set of cultural opportunities, too.

I'll start out getting my bearings in Italy by meeting up with experts on paleoclimates from all over the world at an international summer school, then I'll head out into the field to study the effect of climate change during the most rapid global warming event of recent times—geologically speaking—56 million years ago, called the Paleocene-Eocene Thermal Maximum (PETM, for short). Then it's off to Africa, where I will study the climate change surrounding the most severe extinction event ever to strike Earth, which happened about 250 million years ago. The rocks and fossils in New Zealand will offer a fresh perspective on the PETM I'll have seen in Italy, but in New Zealand I'll be uncovering the effects on the plant life of that time while working with one of the world's experts on palynology, the study of pollen.

Once I get to Nepal I will begin to focus more on modern climate change; in particular, I will mountaineer up into the glaciers of the Himalayas to study the hazards of glacial outbursts floods, when massive ice dams confining melt water suddenly give way and explode. Finally, I'll head to Svalbard to see firsthand how the ice is changing near the North Pole and get a third perspective on the PETM by studying a great rock outcrop there. The juxtaposition of the ancient and modern climate changes will be a great way to finish off the year and get to work on understanding and addressing what humanity will be facing as our climate changes in the years to come.



Peter Buhler was the previous recipient and Hima Gudipati received the Watson Fellowship to travel abroad this year.

Photo Courtesy of Yanwen You

P: What are you most excited about?

H: That's hard to say. There will be so many opportunities! So I guess what I am most excited about is the freedom I'll have to be in control over what I do with my time. No more problem sets and finals!

P: Besides the science, what else are you looking forward to?

H: Overall, I'm looking forward to meeting lots of new people and getting to spend time out in the beauty of nature. Of course, there are some neat places I'd like to visit; for example, in New Zealand I'll hopefully even get the chance to stop by Hobbiton.

P: Where will you stay? Have you been making good contacts with people?

H: Yes, it turns out a lot of scientists are happy to have free trained labor! I plan on spending a lot of time camping, sometimes alone, sometimes with the science groups I've met. Except, not in Svalbard.

P: Why not in Svalbard?

H: There are a lot of polar bears. That's why I'm not camping there.

P: That was my experience, too. Well, not about the polar bears. I found that a lot of the scientists I worked with had more instruments than skilled people to use them. That was one of the great things about the Watson. The initial funding from the fellowship often opened up doors to free local transportation and use of equipment through the museums and universities I worked with.

H: It turns out that I had a bit of trouble getting the visa to stay in New Zealand for four months—I'll only be there for three—did you have any trouble like that?

P: Actually, yes, the same thing happened to me in Spain. That's how I ended up going to Australia, Taiwan, and Morocco, too! The Watson Foundation was very supportive of trying out new countries if you can find something there in line with your project. I'm actually quite glad that the visa didn't work out. It was one of the times I felt most free. While I was in Canada I found out about the visa difficulty. I decided to go to Australia for some of the extra time and two weeks later, there I was!

H: So, tell me, were you really able to get much research done? It seems like a few months here and there isn't actually enough time.

P: Well, it depended on the location. In many places I was able to accomplish meaningful science and make new scientific contributions, like discovering new fossils and new places where stromatolites (living rocks) inhabit Canada. The Watson Foundation also encouraged me to make sure I took enough time to see the world without having to overly worry about getting the research done. It was great to be free to explore without having lots of work hanging over my head—the total amount of work we're required to produce is only about ten pages and a slideshow for the entire year. But it wasn't just a vacation; there were lots of opportunities to push my boundaries and it's not uncommon for Watson Fellows to create publishable work or resume building performances in the sciences, humanities, or arts during their year abroad (although that's not the main goal!).

H: How did the budgeting work out?

P: When I went we "only" got \$25,000 for the year, and it was definitely enough. You guys will be getting \$3,000 more this year, so I'm really excited for the opportunities that should open up for you!

H: Besides the science, what else did you enjoy doing?

P: I found that the best experiences were often the ones I couldn't plan for. Here's a small sample... Swimming with sea turtles, sea lions, and sharks in the Galapagos. Holding the world's oldest fossil in Australia. Digging up dinosaurs and getting adopted by a rockin' community of septuagenarian storytellers in Canada. Being bombarded by a troupe of motorcycling Taiwanese Santas. Playing guitar during an impromptu jam session in Antofagasta, Chile. Watching dawn over Machu Picchu. &c.

By the way, the deadline to apply for next year is on May 15. Who's up for a year of adventure?

Nb. Peter returned to Caltech for graduate school in planetary science following the conclusion of his journey in 2013.

Singer-songwriter Damon Albarn debuts first solo album

NAILEN MATSCHKE
Contributing Writer

Damon Albarn is someone who is in the interesting position of not just having written popular music, but also having written a wide variety and large quantity of popular music for more than a quarter of a century. As the singer and keyboardist for Britpop icon Blur, Albarn was able to use the band as a platform for his lyrics and musical ideas, and as these started to move in the direction of hip-hop, he formed the “virtual” but well-known Gorillaz with UK artist Jamie Hewlett. Through their music, the group explored an experimental mix of alt-rock, hip-hop, and electronica to great success, selling millions of records in the US and UK. However, despite his contributions to Blur and Gorillaz as well as several other collaborations (including film soundtracks and operas), Albarn had never released a solo album until *Everyday Robots* came out on April 28. A work in the style of a singer-songwriter album, but done mostly with sample-based music, it’s clear that it’s a pretty significant departure from anything Albarn contributed to Blur or Gorillaz, but still bears many of the marks of his hand.

Perhaps it’s because Albarn has matured, or at least aged, but the fact that the album lacks some of the energy of his earlier work is immediately noticeable once the record starts playing. The title track, “Everyday Robots,” comes in with a slow, melancholy piano line over a restrained but almost Flying Lotus-esque beat with some spliced high-pitched violin whines on top, and the instrumentation doesn’t get much more complex than that. Some strings get added in later, but besides some occasional acoustic guitar action, the general formula for each song is an interesting beat with some piano, strings, and samples painted over it. However, I can’t say I’ve ever really heard anything remarkably similar to such a combination, and after listening to the album a few times I can say that I’m still pleased with how much Albarn managed to keep the album engaging and not too repetitive. Categorizing the album as singer-songwriter disregards the impressive amount of attention that was paid to the production of the electronic components of the album, while calling it electronica ignores the melancholy atmospheres and situations that Albarn’s tired but emotional voice conjures for the listener.

Underneath it all, though, lies (somehow) the influence of

the tradition of Britpop and its own predecessors, dating back to the Beatles. The cheery, foot-stomping nature of tracks like “Mr Tembo” mixes with the general not quite sad but definitely not cheery atmosphere of the record as a whole, and while fans of Albarn’s previous work might not particularly enjoy the album, I highly doubt that it will ever be dismissed on the grounds that it’s not aesthetically pleasing.

Regarding the lyrics themselves, while it could be argued that Gorillaz covered numerous “serious” topics, *Everyday Robots* is clearly written by someone who has had more time to experience and consider life, focusing on many of the things you might expect a 46-year-old man in modern society to be concerned with. In “The Selfish Giant” (one of my favorite songs from the album) he sings “It’s hard to be a lover when the TV’s on and there’s nothing in your eyes,” expressing the difficulty of maintaining an aging relationship, while on “Mr Tembo” Albarn states that “It’s where he is now, but it wasn’t what he planned,” a similar remark to the sample that opens the album and fitting into the general theme of dealing with where life takes us. I imagine that this album is likely easier to appreciate the older the listener gets. After all, as Albarn

states in the title track, we’re all “everyday robots getting old” that are “in the process of getting home.”

Even if you’re not one for lyrics, though, *Everyday Robots* should still provide something interesting. The mysterious, detuning synths that bring in “You & Me” are refreshingly chilling, while short curiosities like “Parakeet” and “Seven High” offer brief showcases of Albarn’s ability to produce cool soundscapes with just a few instruments.

While the album does have a number of really well-done songs, it also has a few that just don’t stand out to me at all. For example, “The History of a Cheating Heart” never really goes anywhere with its simplicity throughout the course of its unnecessarily long four-minute running length, while “Lonely Press Play” seems like it will be cool with a solid groove, but ends up just being repetitive. Overall, though, these end up not distracting too much from the rest of the record, which leaves plenty of material for the listener to enjoy.

There probably weren’t very many people who doubted Damon Albarn’s songwriting ability prior to the release of this album, and with any luck there should be fewer now. *Everyday Robots* isn’t revolutionary, and while it is



-http://www.damonalbarnmusic.com

Albarn’s first solo LP, it would be almost impossible to argue that it’s better than everything he produced with Blur or Gorillaz. On the other hand, though, it is unique, and it is very competently written and produced. The combination of relaxed, electronica-influenced beats and samples with more traditional singer-songwriter instrumentation makes for some memorable moments, and Albarn has nearly perfected his mastery of creating melancholic moods with both of them. His lyrics, too, are real, relatable, and easy to listen to and comprehend.

Everyday Robots may have its imperfections, but as a whole Damon Albarn’s willingness to experiment keeps it interesting, while his ability to write a catchy song keeps it entertaining, and I’d definitely say it’s worth a listen for anyone looking for something pretty low-key.

Professors elected to prestigious science academies

Continued from page 1

“It is a privilege to honor these men and women for their extraordinary individual accomplishments,” said Don Randel, chair of the academy’s board of directors, of the 204 newly elected fellows and 16 foreign honorary members. “The knowledge and expertise of our members gives the academy a unique capacity—and responsibility—to provide practical policy solutions to the pressing challenges of the day. We look forward to engaging our new members in this work.”

Brady works in the area of complex fluids and active matter that includes microstructural elements such as suspensions, colloidal dispersions, and self-propelling particles. Understanding these materials led Brady to develop a novel computational method called Stokesian dynamics. He won the 2012 Fluid Dynamics Prize from the American Physical Society and was elected to the National Academy of Engineering in 1999.

Most of Farley’s research has focused on terrestrial geochemistry, but he is now increasingly interested in planetary science and especially exploration of the geochemistry, geology, and geomorphology of Mars. In his laboratory on the Caltech campus, Farley and his group measure noble gases such as helium and neon in rock and mineral samples. One major objective of this work is determining the ages and surface exposure history of Earth’s geological features. Farley was

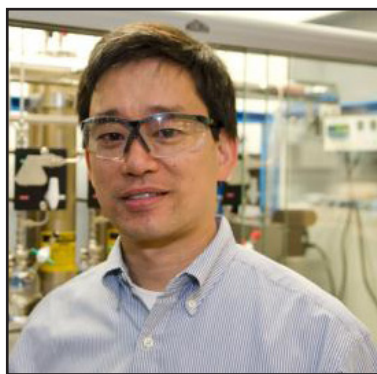


Photo Courtesy of Lance Hayashida



Photo Courtesy of Lance Hayashida



Photo Courtesy of Lance Hayashida



Photo Courtesy of Lance Hayashida



Photo Courtesy of Michelle Feynman



Photo Courtesy of Vicki Chiu

Top: Gregory C. Fu, Fiona A. Harrison (also elected to American Academy of Arts and Sciences), and John P. Preskill were elected to the National Academy of Sciences. Bottom: John F. Brady, Kenneth A. Farley, and Katherine T. Faber were elected to the American Academy of Arts and Sciences.

recently involved in the first-ever experiments of this type carried out on the surface of Mars, via an instrument on board the Mars Science Laboratory’s Curiosity rover. He has received the Day Medal of the Geological Society of America and the Macelwane Award of the American Geophysical Union, and was elected to the National Academy of Sciences in 2013.

Harrison specializes in observational and experimental high-energy astrophysics. She is the principal investigator for

NASA’s NuSTAR Explorer Mission and uses this satellite, along with other satellites and ground-based telescopes, to understand black holes, neutron stars, and supernova remnants. In her labs at Caltech, Harrison’s group develops high-energy X-ray detectors and instrumentation for future space missions. She was elected to the American Physical Society in 2012 and won a NASA Outstanding Public Leadership Medal in 2013.

Also named to the academy this year is Katherine T. Faber, the Walter P. Murphy Professor of

Materials Science and Engineering at Northwestern University, who will be joining the Caltech faculty on July 1 as the Simon Ramo Professor of Materials Science. Faber’s research focuses on understanding fracture and toughening of brittle materials such as those used for high-temperature coatings for power generation applications. She also works on the fabrication of ceramic materials with controlled porosity. She is cofounder and codirector of the Northwestern University-Art Institute of Chicago Center for

Scientific Studies in the Arts (NU-ACCESS), which employs advanced materials science techniques for conservation science. Faber is a Distinguished Life Member of the American Ceramic Society (2013), and became a National Science Foundation American Competitiveness and Innovation Fellow in 2010.

The total number of Caltech faculty named to the academy is now 97.

The academy was founded in 1780 by John Adams, James Bowdoin, John Hancock, and other scholar-patriots “to cultivate every art and science which may tend to advance the interest, honor, dignity, and happiness of a free, independent, and virtuous people.” The academy has elected as fellows and foreign honorary members the finest minds and most influential leaders from each generation, including George Washington and Ben Franklin in the 18th century, Daniel Webster and Ralph Waldo Emerson in the 19th, and Albert Einstein and Winston Churchill in the 20th. The current membership includes more than 250 Nobel laureates and 60 Pulitzer Prize winners.

A full list of new members is available on the academy website at <https://www.amacad.org/content/members/members.aspx>.

The academy will welcome this year’s new fellows and foreign honorary members at its annual induction ceremony at the academy’s headquarters in Cambridge, Massachusetts, on October 11, 2014.

Dancers perform a vibrant collection of elegantly choreographed and brilliantly executed pieces



Above Left to Right: Diana Ardelean and Jay Daigle perform a ballroom number to John Newman's "Love Me Again." Iryna Butsky is as graceful as ever in her performance with the Caltech Ballet. The Caltech Dance Team shows the audience some love at the end of their performance. -Photos Courtesy of Allison Maker



Above Left to Right: Tech Naach seniors look fabulous for their final dance show performance. Li Liu flows across the stage during her classical Chinese performance. Meghana Pagadala shows off her vibrant dress during the Caltech Dhama performance she choreographed. -Photos Courtesy of Allison Maker



The Caltech Dance Team strikes a super cute pose in their sequined shorts. -Photos Courtesy of Allison Maker

Above Left to Right: Caltech's Salsa Club performs a fun Pink Panther piece. The Caltech Dance Troupe gets scared by Captain Hook. Greg Donaldson always has spectacular moves in his performance. -Photos Courtesy of Allison Maker

ACT Award winner to hold benefit dance performance

JANANI COMAR
Contributing Writer

The Caltech Y ACT Award—created for the purpose of "Advocating Change Together"—helps Caltech students expand their understanding of the world and impact it positively. Students explore an issue, work with a mentor, and lead a campaign to educate and engage members of the Caltech community in their cause. The 2013 ACT Award allowed Janani Mandayam Comar, a junior in chemistry, to cooperate with the Children's Organization of Southeast Asia (COSEA) in Northern Thailand to consider and act on the following: After reading novels about the abuse of women in the human trafficking industry, Janani was "deeply disturbed." Upon further study, she realized that "unless women act to change this, the situation will continue to grow." Below, she gives us a glimpse of the actions that furthered her cause.

In September 2013, I traveled to Mae Rim, a province in Northern Thailand. I volunteered at a shelter for girls who were identified as victims or potential victims of human trafficking in the country's hill tribes. My month gave me the extraordinary

opportunity to teach English and science to these girls and to learn more about human trafficking.

I'm so grateful for this experience because it taught me a lot about communication and teaching. I especially loved the time I got to spend with the girls. They were always so vibrant and enthusiastic, even when they didn't necessarily like the subject they were learning, because they knew I liked it. It took about two weeks for them to really open up to me and not be shy. It was definitely worth the wait though. I got to hear about their interests and prospects for life.

Back on campus, I've been working with the Y to promote awareness of human trafficking. The girls I worked with have a chance at a completely different life because they were saved from the horror that awaited most of them. Any help that we can give, even from Caltech, would save girls around the world from this terrible fate.

One of my main initiatives this year has been to organize a classical Indian dance performance that explores the role of women in Hindu philosophy and society. The Kalālayam Dance Company, the troupe I dance with, has selected pieces that highlight the struggles and triumphs of women in

both mythology and history. My goal for this performance is not to raise money for any charity or organization but rather to raise awareness for the problem. I truly believe that when you become personally invested, you will figure out a way to help. Statistics and stories only go so far. I hope that through our dance, people will feel compelled to act. The performance will be held on May 18th in Ramo Auditorium from 3 – 5 pm. Tickets are free with a Caltech ID and \$10 for the general public.



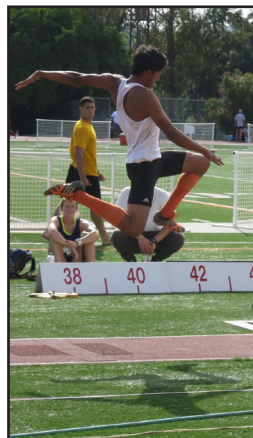
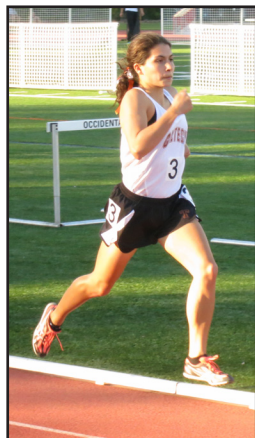
Photo Courtesy of @christamaeimagery.com



I honestly wish I could make this caption funny, but Morgan Leppy broke the school record for most wins in a single season. That's just impressive. - gocaltech.com



Again, a witless caption because Paige Logan is amazing. Ending your senior year with an all conference win? What a way to be remembered. - gocaltech.com



Left to Right: Eric Martin and Jared Forte show off their toned quads. Stephanie Reynolds doesn't even bother to touch the ground during her race. Anup Kishore probably should have used that move in the dance show Friday night. -Photos Courtesy of Michael Ignatowich

Track and field and tennis compete in SCIAC Tournaments

MONICA ENLOW
Editor-in-Chief

This past weekend the Beavers had an exciting weekend at SCIACs.

First, women's tennis posts a win against number three ranked Cal Lutheran to earn seventh place in the league. Highlights from the women's season? This is the third time Caltech has beat Cal Lutheran over the past two years. In addition, Rebekah Kitto graduates with 53 wins, two of those coming from this weekend's tournament. Senior Michelle Tang also gets to leave her final tournament with a win. All in all, they had a great season. Awesome job, ladies.

Now we move on to men's tennis. The men finish with a win against Occidental. The team ends with a total of six wins which is most they have had since 2006. This is the first SCIAC win for the boys since 2009. Beating SCIAC teams is amazing, especially in the final tournament. If that isn't enough excitement for you, Morgan Leppy broke a school record for most individual wins in a single season. Despite the Beaver loss against CMS and Redlands, the freshman put up some impressive stats and now has his name on the Caltech leader-board. I'm genuinely happy that these guys were able to end their season with some high notes.

Finally, can we talk about Paige Logan? She earns the SCIAC title in shot put. She claims another spot on the podium for hammer throw. Her scores are the reason the women's track team was able to beat Chapman and earn the eighth place title in the conference. If you see her, you should congratulate her because this is an amazing accomplishment, and she has worked countless hours and through numerous injuries to achieve this. While you're at it, congratulate Eric Martin for his all-conference honors and the second fastest 800m time in school history. The list goes on as Stephanie Reynolds and Aditya Bhagavathi qualified for their final races. William Hoza and Anup Kishore received all conference honors in pole vault. Graduate student Michael Ignatowich also ran the 3000m steeplechase with the fourth fastest time in school history.

Seriously, if that wasn't a successful weekend for Caltech Athletics, I don't know what is.



Jenny Sheng takes it to another level and ditches her racquet at SCIACs. - gocaltech.com

Weekly Scoreboard

Women's Tennis vs. Pomona-Pitzer (SCIAC Championship)
L, 5-0 Final

Women's Tennis vs. Whittier (SCIAC Championship)
L, 5-0 Final

Women's Tennis vs. Cal Lutheran (SCIAC Championship)
W, 6-3 Final

Men's Tennis vs. CMS (SCIAC Championship)
L, 5-1 Final

Men's Tennis vs. Redlands (SCIAC Championship)
L, 7-2 Final

Men's Tennis vs. Occidental (SCIAC Championship)
W, 7-2 Final

Senior Feature of the Week: Albie Lavin

MONICA ENLOW
Editor-in-Chief

ME: What position do you play? Do you play multiple positions? Which position is your favorite to play, and which is your least favorite?

AL: I play shortstop and I also pitch. I used to play third base, but I moved to shortstop after Eric Schropp graduated and we had a need at the position. I started pitching after Derek got hurt this season, and it has been a fun challenge remembering how to work counts and get outs.

ME: What do you find to be the most exciting part about baseball?

AL: I love watching web gems and other great plays in the field. They require great hand eye coordination, strength, and athleticism, and I just live for the slow roller that must be barehanded.

ME: What were your goals for the past season? Did you achieve them?

AL: Our goals for this season were to win a conference game. There were three teams in the league this year that were beatable if we played a solid game on offense and

defense, but unfortunately we didn't come away with a win. We came a long way from the beginning of the season though. We started out with 9 players and were forced to beg some soccer players to learn the game so that we could compete in three games a week. They put in a lot of work for us and did a great job filling out our roster.

ME: What has been your favorite part about playing for Caltech?

AL: Just playing. I wouldn't be able to play baseball anywhere else, and I wasn't ready to stop playing competitively after high school. I've been able to grow into a better player, and I've also helped my teammates get better. It's very satisfying knowing that I've helped the baseball program evolve into a team that expects more than it did in the past.

ME: What was the most exciting moment of your Caltech baseball career? Tell us a little bit about it.

AL: My sophomore year we took a trip to Reading, CA to play Simpson College over spring break. One of our players was lollygagging in the outfield, and after the half inning ended I yelled at him in the

dugout. I was the first man up to bat in the top of the next inning, and on the first pitch I crushed a home run down the left field line. After that he showed me some hustle.

ME: Can you describe what you will take away from your time on the team?

AL: I'll take away a lot of good memories and buddies.

ME: Do you have any hopes for the future of Caltech baseball?

Our team has changed for the better. I hope that we'll continue to work in the off season to get to a point where every player fully understands the game and is confident in their abilities. We're getting to a point now that Coach Mark has been here for a couple seasons where we'll start getting some good recruits and establishing an identity for the program. There's nowhere to go but up.

ME: Do you keep up with MLB? If so, which team is your favorite? Why? Which teams do you dislike? Which teams would you like to see play?

AL: I am originally from Philadelphia, so naturally I'm a Phillies fan. I usually catch the Phillies-Dodgers series every



- gocaltech.com

summer, and even though we've been on the downswing since last season, I think the team has a real chance to at least take one of the wild card spots. I definitely hate the Braves and the Mets (division rivals), and as a Phillie fan you're kind of taught to just hate everybody not named the Philadelphia Phillies.

ASCIT Minutes

ASCIT Board of Directors Meeting

Minutes for April 29, 2014. Taken by Catherine Jamshidi

Officers Present: Zach Rivkin, Connor Rosen, Malvika Verma, Catherine Jamshidi, Michelle Tang, Connie Hsueh, Patrick Nikong, Annie Chen, Nima Badizadegan

Guests: Margaret Lee, Chris Dosen, Elliot Simon, Parul Pubbi, Esther Du, Tom Parton

Call to Order: 11:02 pm

Funding Request:

- The Board received a funding request from Esther Du, outgoing Interhouse Athletics Manager, for the upcoming Field Day event. A formal budget breakdown was requested for the event, and the Board will look into finding avenues for funding the event.

President's Report (Zach / Cat):

- Congratulations to the newly elected Board! Installation will take place on May 12th for the new BoD.
- The new BoD will need to appoint a Secretary to work with them this coming year.
- Cat will be organizing the transition dinner with Tom. It doesn't look like May 12th will work, so we will instead be sworn in over lunch on the 12th, and hold off on the "dinner" part until everyone is available. Once we decide on a date, invitations will be sent out to guests.
- The Strategic Identity Project is looking to change the secondary mark / icon. Any students with designs should send them in pdf form to pres@ugcs.caltech.edu.
- The Undergraduate Self-Governance Committee is in the process of writing up a series of recommendations to the Faculty Board and Student Affairs Administration.

Officer's Reports:

- V.P. of Academic Affairs (ARC Chair: Malvika / Nima):**
 - ASCIT Teaching Awards will be held on June 5th at the Athanaeum. Winners were selected last weekend, and plaque orders and invitations to attend have been sent.
 - ACM 95 Update: There are lots of ongoing conversations regarding how to improve educating new professors on what's expected. The ARC will be preparing an info sheet about "what's normal" for Caltech classes.
 - There will be a new ARC Secretary in the coming weeks.
 - A survey will be sent out to undergrads about Bi1. The ARC would like to identify what students want out of an "Introduction to Biology" course, and get more information on why students substitute upper-level Biology courses for Bi1.
- V.P. of Non-Academic Affairs (IHC Chair: Connor):**
 - The Tech Express will offer a few, more convenient ways of picking up packages. An email was sent out with details.
 - Chandler Kitchens will be remodeled this summer, but it shouldn't impact lunches / board dinners.
 - The IHC will be holding interviews for Committee Appointments on May 10th; interested students should look for sign ups in the next week.
- Director of Operations (Connie):**
 - Connie is setting up a Netflix account for use in the ASCIT Screening Room: A reminder that rooms in the SAC can be reserved on donut at <http://donut.caltech.edu/rooms/bookroom.php>
- Treasurer (Patrick):**
 - Cat and Patrick will go through p-card training soon.
 - Patrick will be meeting with Lorrie about the reimbursement process as soon as possible, since many students are still waiting - we are looking to fix this!
- Social Director (Michelle / Annie):**
 - Holding on after-party at the Rath is no longer an option. Michelle and Annie are in the process of finding a solution.
 - ASCIT Movie Night will likely place next Saturday (5/11) for Spiderman 2, and 5/31 for either Godzilla or X-men.
 - Tom Parton will be the primary contact for Euro Party this year.
 - There will potentially be an end of the year event, but nothing is decided yet.

If anyone has any questions or concerns about a section of the minutes please email the appropriate officer. We are happy to answer any questions.

Meeting Adjourned: 11:41 pm

News briefs from around the globe

Need to know <100 words about the world this week

Long-lost siblings reunited

78-yr. old twins set world record for longest separated, reunited for first times since birth [BBC]

California Chrome wins derby

77-yr. old trainer and jockey w/horse California Chrome is oldest person to win Kentucky Derby [TIME]

Teen's bomb plan thwarted

4 counts murder, 6 counts explosive possession charged against MN teen after police found stash [CNN]

New prime minister appointed in Libya

42-yr. old businessman Ahmen Matiq sworn in by Libyan Parliament [TIME]

GM issues SUV recall

51k cars built in March-Aug. 2013 recalled for faulty fuel gauges [TIME]

Condoleezza Rice backs out of speech

100 Rutgers students protested Rice as commencement speaker because of Iraq war involvement [CNN]

Announcement from Chris Dosen, RevComm Chair:

Nomination sheets for off-campus BoC rep and off-campus CRC rep will be up outside Fleming from Tuesday May 6th until Friday May 9th at 5pm.

All interested undergraduates should sign up during that time (no late sign-ups will be considered). After signing-up, candidates should submit a candidacy statement (in plain text) and photo to The Tech at tech@caltech.edu. Elections will be held next week.

Retraction:

In Issue 22 of *The California Tech*, there were two misuses of the word "recant": page 3, in the Review of *The Grand Budapest Hotel*; and in the headline for the Coachella article on page 4. In both instances, "recant" should be replaced with "recount."

Editors' Note

Hello Caltech!

In case you haven't noticed, we have made some changes to *The Tech*.

We will be sending out a survey soon to gauge your opinion on the new changes, and to figure out what you want to see in *The Tech*.

Thanks for reading!

Yours truly,
The Tech
Editorial Staff



The California Tech

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The advertising deadline is 5 PM Friday; all advertising should be submitted electronically or as camera-ready art, but *The Tech* can also do simple typesetting and arrangement. All advertising inquiries should be directed to the business manager at tech@caltech.edu. For subscription information, please send mail to "Subscriptions."

Calendar of events for the week of May 6- May 12, 2014

TUES. 5-6	WED. 5-7	THURS. 5-8	FRI. 5-9	SAT. 5-10	SUN. 5-11	MON. 5-12
10am- Charting Your Course Exclusively for Women, Winnett 3pm Caltech Library Workshop - "You and Your Thesis", SFL 328	11am- Caregiver Resource Fair, San Pasqual Walk 8pm - Sarah Reisman - From Nature to the Pharmacy: The Chemistry Behind Modern Medicines, Beckman Aud.	5pm - Ocho de Mayo Dinner, San Pasqual Walk 10pm - Trivia Night, Chouse	10am - How to Create Superheroes, Beckman Auditorium 7pm - ASCIT Spring Formal, off campus 8pm - Bandorama: Caltech Jazz Bands & Concert Band, Ramo Aud	4pm - MACH 33 Play Reading: Theory of Nothing, Hameetman Aud. 8pm - Bandorama: Caltech Jazz Bands & Concert Band, Ramo Aud	Get some sleep and work on sets, everyone.	Last Day for Seniors to Remove Conditions and Incompletes 3pm - Faculty Board Meeting, Millikan Board Room <i>The Tech comes out!</i>

Counseling Center Announcement:

In response to student feedback, we're changing the format of the Tuesday night Skills Group offered by the Counseling Center. Feel free to drop by the Health Education office (CSS rm248) on Tuesday nights between 7:30-10:30 to have a one-on-one conversation about mindfulness and to learn about some of the skills available to manage emotions more effectively and have better relationships.

Students are welcome to drop by to talk about whatever they'd like too! For more information call x3100 or visit counseling.caltech.edu

The Caltech Big T is collecting any photographs that you have of events (such as interhouse parties, club events, open mic nights, intercollegiate sports, etc.). Please send any pictures that you have to caltechyearbookhigt@gmail.com with the event name in the subject line. We appreciate your help!

Crossword

1	2	3	4	5		6	7	8		9	10	11	12	13
14						15				16				
17						18				19				
20					21			22	23					
		24					25							
26	27	28		29		30			31		32	33	34	35
36			37		38			39			40			
41					42				43		44			
45						46					47			
48					49		50			51		52		
					53	54			55		56			
57	58	59	60	61				62				63	64	65
66						67	68			69				
70						71				72				
73						74				75				

Across

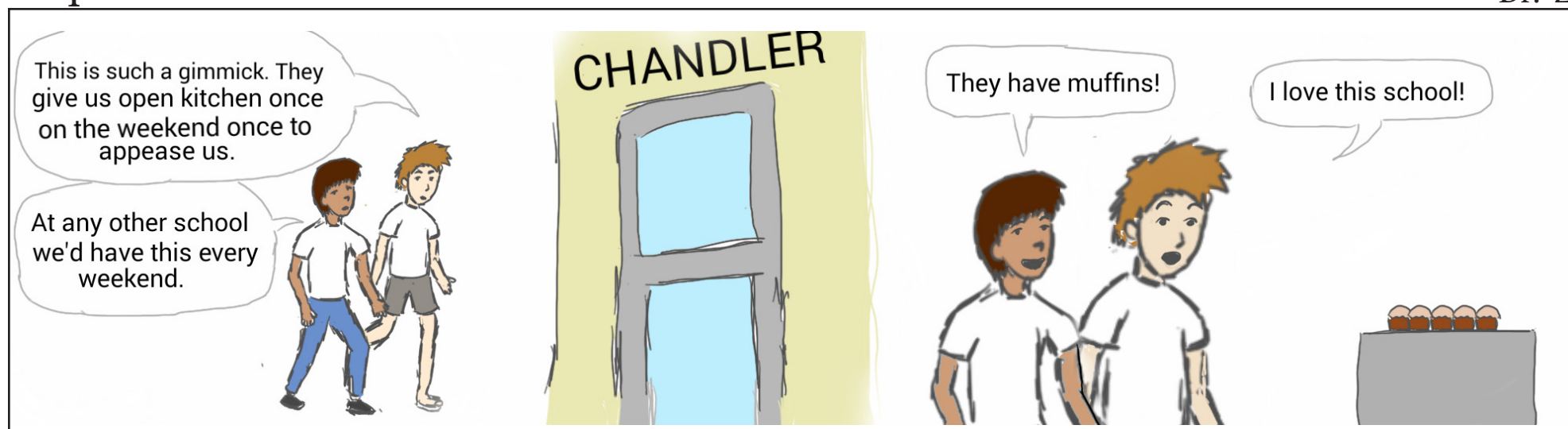
- Ambit
- Someone who overacts
- Frozen
- Female
- Female sheep
- Elude
- Highly skilled
- Snakelike fish
- Staircase post
- High ranking officer
- Perpetual
- Music genre
- Hawaiian garland
- Health spring
- Rate of moving
- Tradition
- Flip
- Harangue
- Finishing line
- Singing voice
- Tribulation
- Assist
- Foray
- Narrate
- Bloodshed
- Misprint
- Orderly
- Paddle
- Empty or destroy the inside of
- Chart
- Bullfighter

Down

- Goods or money obtained illegally
- Computer program instructions
- Portent
- Scholarly article
- Ensnare
- Part of a shoe
- Wonderment
- Noisy riotous fight
- DNA segment
- At any time
- Mowed grass
- Notion
- Small wooded hollow
- Separated
- Twitch
- Environment
- Call up
- Constrictor
- Cachinnation
- Spooky
- Hole punching tool
- Result
- Tendency
- Indicating maiden name
- Coin substitute for slot machines
- Not strict
- Gaze
- Characterized by opposite extremes
- Up and about
- Open wagon
- Male red deer
- Excluded from use or mention
- Drama set to music
- Measuring instrument
- Soft drink
- Story
- South American animal
- In the past
- Pill
- Relating to the city
- Musical instrument
- Encounter
- Affirm
- Ripped
- Similar
- Notable achievement
- Healthy
- Walrus tooth
- Chills and fever
- At that time
- Be indebted to

Acquired Taste

Dr. Z



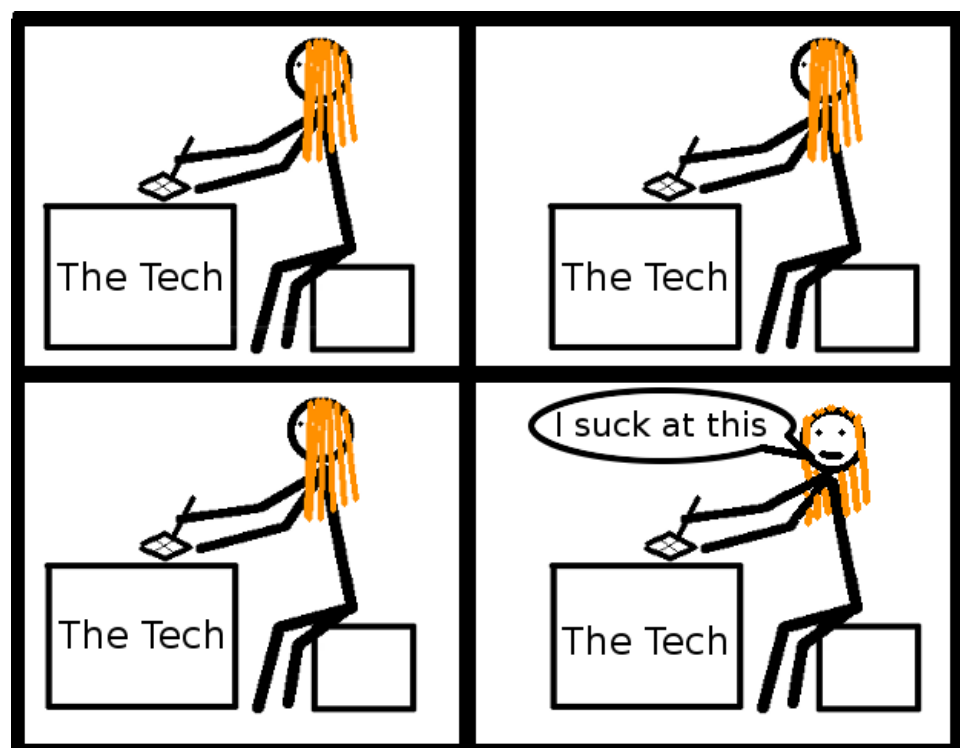
Game of Thrones Pick Up Lines

Audrey Liu



“Constructive” Criticism

Leo Cragman



Sudoku

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

Answers to last week's Sudoku

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

Answers to last week's crossword

F	L	O	R	A		A	T	O	M		P	A	S	S		
R	A	V	E	N		L	O	S	E		A	B	E	T		
E	V	E	N	T		E	M	I	T		T	O	N	E		
E	A	R	T	H		B	E	E	F		U	S	E			
					E	V	E		R	O	O	S	T	E	R	
F	I	L	A	M	E	N	T		R	O	E					
I	D	O	L		S	T	O	P		D	E	L	T	A		
R	E	A	L		T	E	X	A	S		T	E	A	L		
M	A	N	I	A		R	I	D	E		H	A	L	L		
					E	R	R		C	R	A	N	E	F	L	Y
S	T	U	D	I	E	D			E	R	A					
T	O	N			D	A	R	K			U	P	S	E	T	
A	X	I	S		S	A	N	E			S	U	A	V	E	
R	I	T	E		O	P	E	N			E	L	V	E	S	
K	N	E	W		N	E	E	D			A	L	E	R	T	

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