GALEX Sheds Light On Galaxy Formation

Two galaxies dance past each other, pulling streamers of gas from the other like outstretched arms. Within the ribbons of gas, flashes of light burst forth from the mists of the gas, signaling the birth of a star. Massive enough to be self-gravitating, some of the new stars even went on to create new galaxies within the universe.

Before, optical telescopes could not observe these types of events, but the new Galaxy Evolution Explorer (GALEX) project, headed by Professor Chris Martin, which has recently begun surveying the sky, can now map such occurrences using the ultraviolet spectrum. Using a telescope, optics and two large detectors with the ability to count individual photons, GALEX, which is a National Aeronautics and Space Administration mission, will take shallow images of the entire sky and deeper images of smaller portions of the sky using the ultraviolet (UV) range of the electromagnetic spectrum, from approximately 1000 to 3000 angstroms in wavelength.

Using this spectra of portions of the sky and combining this information with the information previously received from the ground, they can explore the mysteries of star formation. The field of view of the GALEX equipment is very large, about two times the diameter of the moon. "With this range, we can observe galaxies, stars, quasars and huge numbers of objects," said Martin, the principal investigator on GALEX. By surveying a large number of galaxies, astronomers have more objects which they can compare to determine the answers to their questions.

Through the information they obtain, the GALEX team hopes to be able to glimpse back through time ever. In the next presidential election, less than half of the people will vote. Of voters under 25, 34% do not vote. Similar statistics apply to low income people and working class people. Sanders blamed a combination of media influence and the existing political culture for this problem. From Sanders' perspective, the most significant issue in America today is the decline of the middle class. The average American is working for longer hours and lower wages than 25 years ago. We have the longest work hours of any industrialized nation as well as the highest level of childhood poverty.

Sanders demands to know and he says that we should also demand to know why the middle class is shrinking. He also says we need a discussion panel expounding their views on how this impacts science and what they are doing to help the students.

Bernie Sanders, at-large House representative from Vermont, came to Caltech last Thursday to share his views on current political situation in America. In 1991, Rep. Sanders was the first independent to be elected to Congress in 40 years and has been re-elected 5 times since. He is the founder of the House Progressive Caucus and is one of only 66 House members to vote against the USA Patriot Act. Opening with the statement that his mission is to "stop the advance of right-wing politics in the US", Sanders talked about a wide range of issues from the economy to health care to the situation in Iraq. According to Sanders, the major concern is the loss of America's "strong, democratic heritage." Voter turnout has been the lowest ever. In the next presidential election, less than half of the people will vote. Of voters under 25, 34% do not vote. Similar statistics apply to low income people and working class people. Sanders blamed a combination of media influence and the existing political culture for this problem. From Sanders' perspective, the most significant issue in America today is the decline of the middle class. The average American is working for longer hours and lower wages than 25 years ago. We have the longest work hours of any industrialized nation as well as the highest level of childhood poverty.

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Benzer, Gray Receive Franklin Recognition

Two professors, Seymour Benzer and Harry Gray were among the eleven laureates announced this year for the Franklin Institute Awards. This prestigious award has been presented to scientists and technologists who have made significant contributions to society since 1824. Dr. Benzer will be awarded the Bower Award and Prize for Achievement in Science and Dr. Gray will receive the Benjamin Franklin Medal in Chemistry at the awards event in Philadelphia on April 27. The award is one of the most prestigious scientific honors in the world and is often seen as an indicator for future Nobel prize winners.

Dr. Benzer is the Boswell Professor of Neuroscience, Emeritus, at Caltech. He majored in physics at Brooklyn College and studied solid state physics at Purdue. After being sparked by an interest in molecular biology, he took a leave of absence to work at the Salk Institute in San Diego. Dr. Benzer earned his Ph.D. in physics from the University of California at Berkeley in 1950. He has been at Caltech since 1964 and is the principal investigator of the Laboratory of Neurogenetics, which studies the molecular basis of brain function. Dr. Gray is the first independent to be elected to Congress in 40 years and has been re-elected 5 times since. He is the founder of the House Progressive Caucus and is one of only 66 House members to vote against the USA Patriot Act. Opening with the statement that his mission is to "stop the advance of right-wing politics in the US", Sanders talked about a wide range of issues from the economy to health care to the situation in Iraq. According to Sanders, the major concern is the loss of America's "strong, democratic heritage." Voter turnout has been the lowest ever. In the next presidential election, less than half of the people will vote. Of voters under 25, 34% do not vote. Similar statistics apply to low income people and working class people. Sanders blamed a combination of media influence and the existing political culture for this problem. From Sanders' perspective, the most significant issue in America today is the decline of the middle class. The average American is working for longer hours and lower wages than 25 years ago. We have the longest work hours of any industrialized nation as well as the highest level of childhood poverty.

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One Act Theater To Debut Friday at SFL

By KATYE FISCHER

Over dinner one night in November, the idea for One Act Theater was born. Kim Popendorf, '06 and producer Kayte Fischer, '05, agreed that many aspects of Caltech theater were not accessible to enough undergraduates, and that people too were too busy to commit to whole plays, others simply did not know they existed at the school. Some wanted to get some experience with directing.

One Act Theater will be performed Friday, April 23, at 7 and 9:30 pm. The outside amphitheater Sherman Fairchild Library will be outfitted with lights, speakers and, food, acting as a distinctive stage. Tickets are free, since the production was made possible by a generous grant from the Moore-Holmgren Foundation. Tickets are available online or by asking for donations so that they can produce more one act every year.

OAT was founded to reach out to students who had not been as involved as possible. These plays would be completely produced by students. "If non-students could be involved. After a call for directors, actors and crew, the directors group got together and began to plan plays and a venue to produce a small group, only long enough to accommodate a small group of students, there would be fewer shots, "one act" plays. These plays would only have a few cast members, allowing the scheduling to be much more flexible and easing time concerns for actors and directors. Each play is unique in tone and content, giving the performers a well rounded feel. Poor Little Lambsh, by Stephen Gregg, features five kids and their grandmother at a baseball game. As far as the kids can tell, the grandchild only knows live. When forced to spend time with their house, they each draw a story and compete to see who can make the grandmother to fall in love.

The scene is quite different in English Made Simple, by David Ives. Jack and Jill meet at "English Made Simple," a bookshop, a distinctive place. Ryan Oliff, '05, director of Variations on the Death of English, Put 'Em Up, "It's nice to be able to choose your own project and see it come out so well."

Loh Receives Several Academic Accolades

By DEBORAH WILLIAMS-HUGHES

PASADENA, Calif.-California Institute of Technology student Po-Shen Loh is the recipient of multiple honors which will enable him to pursue his graduate study and research.

Loh received the Churchill Scholarship, a graduate study in mathematics at Churchill College, Cambridge, in England. He is one of 11 students from across the country to receive this scholarship. The Churchill Scholarship Program, now in its 41st year, offers students an exceptional opportunity to pursue one year of graduate studies in engineering, mathematics, and the sciences at the university. The scholarships also provide the opportunity for the scholars to experience life in Britain. The Winston Churchill Foundation of the United States was established in 1959, is the sponsor of the scholarship program.

Loh was also offered a Hertz fellowship to pursue graduate work leading to the award of a Ph.D. in the physical sciences. The Fannie and John Hertz Foundation has named him one of the most promising young Americans, whose technical achievements promise to have the greatest impact on the application of the physical sciences to human problems and to the advancement of American Republic." Loh plans to utilize this fellowship to pursue graduate studies in mathematics at Princeton University.

In addition, Loh was awarded a Beckman Scholars fellowship (NSF graduate fellowship to cover three years of graduate study). The NSF fellowship is awarded to about 900 students each year on the basis of academic excellence.

And finally, Loh has been se-lected from over 3,200 applicants for a 2004-2005 National Defense Science and Engineering Graduate Fellowship Program. This fellowship is awarded to cover one year of graduate study and is sponsored by the Department of Defense through the Air Force Office of Scientific Research, the Office of Naval Research, the Army Research Office, and the High Performance Computing Modernization Program. It is administered by the Society for Engineering Education.

With an exemplary academic record, Loh is the recipient of numerous high school and college honors that include a silver medal at the 1999 International Mathematics Olympiad in Bucharest, Romania; a 2000-2004 Aime Merit Award, and the 2003 Mcel­ gan Ward Prize for developing original math problems and solutions. He was also a 2002 national semifinalist in the TopCoder Google Code Jam and winner of a 2003 Reddy Goldwater Scholarship.

Loh recently returned from the 28th annual world finals of the Intel Science Talent Search for American High School students. Loh placed third in collegiate category, and his Caltech team scored 7th out of 113 teams from 75 different countries.

Loh grew up in Madison, Wis­consin, where he attended Lakeside School. In his spare time, he enjoys playing chess and optimizing computers for his family and friends. Eventually, Loh would like to become a university professor in mathematics.

continued from Page 1, Column 3

Caltech President David Baltimore spoke last Tuesday about the challenges faced by international students and scholars regarding the latest security concerns in issuing visas.

Visa Policy Hindering Scientific Progress, Program Suffer

Continued from Page 1, Column 3

The relevant information for the visa is determined based on the country of birth, and it is the "nature of the opportunity, the nature of the work," and thereby, many projects about students in the United States policy would also be less favorable.

When applying for a visa, the U.S. Consulate requests a security check depending on the following information: Country or birth of Citizenship, Name of visa applicant, Field of study and research. If an applicant comes from Cuba, Libya, Iran, Iraq, North Korea, Sudan or Syria (which are considered state sponsors of terrorism), or if an applicant matches any of the "Lookout System" and is an applicant's field of studyresearch matches any of the entries on the "Technology Alert List," a security check may be requested.

The last procedure is admitting the one that has the most impact on the Caltech community. When a Consular Officer determines that an applicant is not eligible for a visa and that the "Lookout System" and the applicant's field of studyresearch matches any of the entries on the Technology Alert List, then the Consular Officer decides whether to deny the applicant's visa. If the applicant is granted a visa, the Consular Officer decides whether to admit the applicant to the United States.

In conclusion, there is not really any helpful input from the government and here at Caltech, the administration is doing all it can to help the students. For example, Professor Mortaza would talk to the students having visa issues who want to go home, present- ing to them the risks involved and discuss all aspects. According to the director of the student service, they are formulating many letters to the agencies from our faculty to explain the nature of the students' work and to see whether there is any possibility that the process of Visa Mantis can be made faster. "We can only hope that this is effective."

The California Tech

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confidentially and have to this point, and will certainly continue. And that is precisely the fact that people trust that people were willing to tell me that, and as you see, more, as the reports were done in the safety of their own room, peer pressured, peer motivated. We count a violation of the honor system as one of the following: cheating on an exam, cheating extra time on an exam, and not indicating it on the exam cheating during discussion or on an exam, plagiarizing (stating someone else’s work or ideas without acknowledging it) in either a lab course or research “collaborating with another student on an examination.” It is clear that some violations would fall into more than one category for example, for example, I typically violates the collaboration.

I’ll start out with the worst number. Approximately 50% of the undergraduate population late the honor code at some point in time and only 42% of those who took the survey that I had at Caltech means that 1/3 of people who took the survey reported that they had late the honor code at some point during their stay at Caltech. Shock, disbelief and outrage seemed like the norm for a number of days. Then things sort of simmered down around the time of ASCIT elections. I think it’s the blame and shame lies with me that the results were not published sooner. The analysis is now quite new, and here they are now.

We finally got around to doing this survey last year, and the data that I had back then are quite interesting, if you have any questions about which is, or any questions about the survey in general I strongly encourage you to do so. I hope that you can come on the Olive Willow and ask. Furthermore, a number of people told me that this came up with any of the numbers, I encourage you to email or call or drop by and ask. I hope you can explain. The basis for the inter- pretation of the results is the board: one as a representative and one as a chairman. We got at least 80% response (261 students out of 313 eligible students). It is a BIG thank you to everyone who participated in the survey. I know it was long, and a number of students have gone through a number of studies have shown that self-reporting behavior of anti-social acts is not in conformity to the social norms of a society or a university, and the reporting. That said, we promised people who have violated the honor system 3-4 times, not just twice. You see, that’s 50% of those who believe that self-reporting behavior of anti-social acts is not in conformity to the social norms of a society or a university, and the reporting. That said, we promised confidentiality and have to this point, and will certainly continue. And that is precisely the fact that people trust that people were willing to tell me that, and as you see, more, as the reports were done in the safety of their own room, peer pressured, peer motivated. We count a violation of the honor system as one of the following: cheating on an exam, cheating extra time on an exam, and not indicating it on the exam cheating during discussion or on an exam, plagiarizing (stating someone else’s work or ideas without acknowledging it) in either a lab course or research “collaborating with another student on an examination.” It is clear that some violations would fall into more than one category for example, for example, I typically violates the collaboration.

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Freshmen in Avery: Why Caltech Will Be a Better Place

By THE AVERY COUNCIL

At the beginning of this year, the Avery Council proposed the Student Housing Committee that freshman be allowed to pick into Avery House as part of Rotation, beginning in the fall of 2004. This proposal was, uniquely. endorsed by the Avery Council, and a poll showed it was supported by the majority of Avery residents as well. It was, however, opposed by the IHC. After much discussion, the Student Housing Committee approved the proposal, but with a compromise that the plan be implemented in the fall of 2005.

Before moving on and working out the logistics of implementing our proposal, we believe it would be beneficial to reflect upon its logical foundations. So why did the Avery Council make this proposal, and how do we envision that Caltech will be a better place once freshmen can choose Avery House?

Overcrowding and the Eighth House

The first major benefit of having freshmen in Avery is actually not a problem, but overcrowding in the seven houses has been a serious problem for many years. We estimate that roughly 120 students, mostly sophomores and juniors, move out of their houses each year to make room for incoming freshmen. This happens because freshmen can only pick into the seven houses, and there are only so many rooms available. Most returning seniors would rather not be ejected, so the houses hold lotteries to decide who has to leave. It is necessary to accept this unsatisfactory situation. Or can we change it so that students do not have to leave their houses unless they choose to?

There has been considerable discussion about the possibility of building an eighth house on campus to alleviate the current overcrowding problem. This is a popular idea, and the IHC has endorsed the option of an eighth house as part of the upcoming re­ hab project. With more space in the form of an eighth house, we would reduce the number of stu­ dents that have to be ejected each year, and that would certainly improve housing at Caltech.

The Avery Council has proposed essentially to build that eighth house, but to build it in Avery. If we imagine putting 20 fresh­ men in Avery each year, and we further imagine that all of those freshmen continue to live in Avery through to their senior years, then this reduces overcrowding in the other seven houses from 120 students per year to 40 students per year. Having freshmen in Avery will create a substantial dent in the overcrowding problem.

Furthermore, if funding can eventually be found for the most ambitious rehab plan, in which the three north houses are turned into four smaller houses (which creates additional space), then overcrowding might be alleviated altogether. With freshmen in Avery, we envision a day when all students can live where they choose to live.

The Avery Community

A second major benefit of having freshmen in Avery is that Avery will be a great place to live. It doesn’t have as strong a sense of community as the other houses. Why is that? We believe that the main reason is that too many people live in Avery simply out of necessity. We estimate that one-third of the current residents of Avery are only there because they were forced out of their other houses. Many of these “transient” residents plan to return to their original overcrowding problem, so they spend a lot of time socializing at their original houses - and so not at Avery. Quite a few of the closed doors you typically see walking through Avery belong to students who choose to spend their time elsewhere.

The problem is one of critical mass. To form a viable community, there has to be a sizable number of people who actually choose to live in the house. Many of those who have already established a strong community in Avery have some such students, but their numbers are relatively small compared to the other houses, and their energies are overtaken. Without sufficient freshmen to maintain a robust core group of house members, the community suffers.

It is possible to build a stronger community at Avery, but you cannot build a community without people. We feel the Avery community is strong and thrive without building up its core group of students that are really committed to Avery. The Avery community has not developed to its full potential over the years since Avery was built, and this is a problem we would like to fix.

We believe that freshmen will make a huge difference in Avery, just as they do in the other houses. Freshmen that choose to live in Avery will adopt Avery as their home, just like freshmen currently adopt the other seven houses. Avery freshmen will not come into the house with established social ties to the other houses, so they will likely become major contributors to the Avery community. After four years of incoming freshmen, we expect that Avery will have a strong and vital core group of students.

People have expressed concern that the Avery environment is not sufficiently nurturing for freshmen. We feel that Avery is a good place for freshmen now, and it will likely become even more so.

Avery simply out of necessity. We feel the Avery community. While Avery House is a great place to live, there are students who seek them! Avery students came to Caltech, and that they will thrive in Avery, and that they will indeed have a big impact on development of the Avery community.

Another concern we hear is that freshmen will mean that Avery can no longer be a refuge for those who seek an alternative to the culture in the seven houses. To some extent, that will be true of freshmen, but we believe they will have already established a small-scale sociological experiment, introducing freshmen to the Avery community and identity, like the other seven houses. We agree, and we expect it will be a much more desirable place than the other houses. Thus, in the long run, Avery will probably be superior. We are confident that the Avery will thrive in Avery, and that they will indeed have a big impact on development of the Avery community.

We would like to point out that we envision the Avery community as it becomes an eighth house, and the Avery community will evolve after 2005, and that this reduces overcrowding in the other seven houses. We agree, and we expect it will be a much more desirable place than the other houses. Thus, in the long run, Avery will probably be superior. We are confident that the Avery will thrive in Avery, and that they will indeed have a big impact on development of the Avery community.

One concern we hear is that freshmen may choose Avery for the wrong reasons, without knowing what Avery is really like. This might be said of any of the other houses as well. We feel that freshmen will thrive in Avery, and for some it will be a better choice than the other houses. As for Avery, we feel that freshmen, like all students, should be given the free­ dom to choose what they want. We think that is the right for themselves. The purpose of Rotation is for us to show them what the other houses are like. If we do our job, then the freshmen will make informed choices.

A number of students have also expressed their feeling that freshmen should not be denied the opportunity to experience the culture in the seven houses. To some extent, that will be true of freshmen, but we believe they will have already established a small-scale sociological experiment, introducing fresh­ men to the Avery community and identity, like the other seven houses. We agree, and we expect it will be a much more desirable place than the other houses. Thus, in the long run, Avery will probably be superior. We are confident that the Avery will thrive in Avery, and that they will indeed have a big impact on development of the Avery community.

We believe that having freshmen in Avery is close to a win-win situation: Avery House wins, the other seven houses win, and the incoming freshmen win. The seven houses are great for most students, but it isn’t better to provide additional housing options? We feel that Avery House will provide an excellent alternative to some freshmen, and that all freshmen should be given the choice of living in Avery.

What the Avery Council has proposed is essentially to build that eighth house, but to build it in Avery. If we imagine putting 20 freshmen in Avery each year, and we further imagine that all of those freshmen continue to live in Avery through to their senior years, then this reduces overcrowding in the other seven houses from 120 students per year to 40 students per year. Having freshmen in Avery will create a substantial dent in the overcrowding problem. This is a popular idea, and the IHC has endorsed the option of an eighth house as part of the upcoming re­ hab project. With more space in the form of an eighth house, we would reduce the number of stu­ dents that have to be ejected each year, and that would certainly improve housing at Caltech.

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Beaver Cup XVIII: In Battle of the Hockey Alumni, Caltech Defeats MIT

By HAJIME SANO, DANIEL THUNNISSEN and BIFF YAMAZAKI

The Caltech Alumni hockey team defeated the MIT alumni 3-2 in the annual Beaver Cup over the Easter weekend, which was also the second time Caltech has won the Beaver Cup in eighteen meetings of the two Beaver teams.

Hosted at Gladiators Gardens in La Verne, California, Beaver Cup XVIII was an exciting and close affair. Although the MIT alumni dominated play for long stretches of the game, Caltech secured the win with two third period goals for the come-from-behind win.

Both teams iced light lines for this Easter weekend match: eleven skaters on the MIT squad and ten for Caltech. The two teams played to a scoreless first period. At 7:21 into the second period, Caltech goalie Frank Monzon in Beavercraft uniform repulsed a shot by MIT's Matt Fonllore and a subsequent 2-on-1 rush by MIT.

The Caltech尔se's 7:50 shot tied the game just outside the blue line that beat MIT goalie Frank Monzon. The Caltech defense was able to turn aside all shots. Play started to even out in the second period. Dennis Clarke opened the scoring for MIT 5:10 into the second period on a one-timer off a cross ice pass from Shawn Swanson. Pavel Svitek tied it for Caltech 1:50 later, when Mark Stewart dug the puck from behind the net on a double team, which Svitek wide open in front. Clarke scored again at 8:35 into the second period, assisted by Swanson.

As MIT took a 2-1 lead into the third period, it seemed likely Caltech’s futility in the Beaver Cup was over. However, with Haj Sano of MIT off for roughing early in the final session, Caltech capitalized and scored for an equalizer. It came through a great effort by Adam Olsen assisted by Hakan Mccormik. This set the stage for Svitek's late heroes. With five minutes remaining in the game, Svitek picked up the puck near center ice and after maneuvering around two MIT players unleashed a ferocious slap shot from just outside the blue line that beat MIT goalie Pete Gasparini over the glove shoulder. The MIT Al­umnus Graham spotted the chance immediately in the minute of the game in a desperate effort to tie the game. Despite tremendous offensive pressure, Monzon and the Caltech defense held firm, securing the victory.

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Students Argue Segregation Issue Before Lunch Crowd

By K. SZWAKOWSKA

The Underground Housing Debate, hosted by the Caltech Public Speaking Club and International Student Programs (ISP), played out this Wednesday (that is, April 14) at noon on the Dickson Walk. Students lined the walk and sat around on the grass—some came with a lively interest in the issue; others were attracted merely by the complimentary pizza and soda. All of them learned some interesting facts about life on campus, from a point of view not frequently discussed: the issue of segregation between different groups in campus housing.

The debate was held as part of Caltech International Week—an extended series of events sponsored by the ISP, intended to educate people about the diverse cultures around the world. This year’s panel discussion was held on post-September 11 American foreign policy with President Bush on Tuesday; an international fish fair and culture show on Friday; and on Saturday, a performance of the African-Brazilian martial arts-dance form Capoeira. Like these other events, the debate was intended to raise awareness of cultural differences between groups, while at the same time encouraging interaction and mutual understanding.

Specifically, the topic of the debate was: “Resolved, that Student Government should take action to average self-segregated living patterns among Caltech undergraduates,” drafted by Professor Morgan Kouwer of the Humanities and Social Sciences Division. Kulsoom Hasan and Kevin Bartz argued for the affirmative side and a panel discussion about post-September 11 American foreign policy with President Bush on Tuesday; an international fish fair and culture show on Friday; and on Saturday, a performance of the African-Brazilian martial arts-dance form Capoeira. Like these other events, the debate was intended to raise awareness of cultural differences between groups, while at the same time encouraging interaction and mutual understanding.

Hasan noted that the student government is already getting involved in the issue of diversity, for example by getting involved in events such as International Student Week and so using student government to promote diversity in student housing is not a far stretch from the present situation. In conclusion, Hasan pointed out that the issue is not about individual houses, but about the whole housing system; in general, what, if any, group is not comfortable at all in the housing culture?

Ricketts was white. The actual segregation of groups within Caltech thus established, the debate could proceed.

On the side speaking in favor of student government intervention in the issue, Kevin Bartz (junior, Fleming) emphasized his appreciation for the traditions of the individual houses, but expressed concern that some people do not feel welcome in different houses. He argued that house stereotypes create an atmosphere of a sort of cultural identity would be lost?

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Prefresh, Parents Face ‘Beefed Up’ Programs

By TAMMY MA

Caltech will welcome and host a new group of prefresh starting this Thursday, April 15th through Saturday for Prefresh Weekend 2004. Of the over 3,000 applicants to Caltech, approximately 200 students were accepted and 230 of them will be setting foot on campus this weekend to get a glimpse into the Caltech experience.

Stated Ray Prado of Undergraduate Admissions, “We have a great class coming in. They represent a strong interest in math, science and engineering. But we also have many people interested in music, sports...it’s a really diverse class. We have even someone who raised show chickens and a dolphin trainer from Guam.”

The prefresh will be staying in hostels in all seven houses and will be treated to the (oftentimes eclectic) dinners in the student houses. Each house has planned special social events for the weekend, including ice cream socials, a casino night, midnight sports games, mini-golf, capture the flag and tunnel tours.

On a more academic note, prefresh will also get an opportunity to attend classes, meet with faculty, learn about research and presented programs at Caltech, tour labs and visit the club fair and a specially planned JPL event.

According to Michael Herbert, also of Undergraduate Admissions, only one change to this year’s program will be a “beefed up parent program.” He added that, “In years past, parents sometimes felt like they weren’t getting enough information. So this year, we’re making more of an effort to reach out to them, with talks from Gary Magrath [Vice President of Student Affairs], security and the counseling center.”

On Saturday, there will also be an all campus BBQ on Avery’s north lawn, open to the entire undergraduate community. It will hopefully serve as a mingling forum for the prefresh and current students and for the prefresh to further meet each other.

A student gets a massage during this year’s Health Fair last Friday. There were a number of groups offering information and free services, as well as a band playing outside Chandler.

Franklin Awards Often Go to Nobel Indicator

Continued from Page 1, Column 5

of absence to study molecular biology that initiated a successful career in genetics.

He began to study the genetic basis of behavior when his second daughter was born and whose personality was radically different from his first daughter. This sparked his curiosity as to how and to what degree our genetics dictates how we behave.

Based on his experiments and observations mating mutant flies, Benzer’s lab has studied pin-pointed genes that govern everything from our circadian rhythms that determine the time of day we are at our peak (defining whether we are larks or owls) to courting behavior to memory.

Currently, the lab is researching a few different projects, emphasizing genes that extend lifespan. For example, the lab has named a particular mutant Drosophila, methuselah, which is especially tenacious and can withstand more hardships than most other mutants. In Benzer’s lab, it is known as Chern 1a in a way that was very understandable.

He first chose to study metalloproteins because he was fascinated by their beautiful intense colors due to transition metals such as copper, that has a deep blue or purple color and iron that makes the protein orange or red. Then he focused his research on how the electron transport chain works because these proteins are crucial in maintaining life.

His favorite class that he teaches is Chem 153 which discusses spectroscopy and photochemistry. Professor Gray loves teaching because he believes that research and teaching are inextricably tied and interrelated. In his own words, “If you can’t explain what you are researching to anyone, a man on the streets and four-year-old at a level they can understand, then you have no business then being there.”

Thus, the mission design focuses on galaxy evolution and broader purposes. Even though astronomers know that, at a star’s birth, gas is converted to create the star, the actual mechanism and process is unknown. Therefore, GALEX has delineated three goals for their project.

Firstly, we want to understand the method of using UV brightness to measure star formation rate,” Martin said. Since the technology and approach in using the UV spectrum is relatively new, GALEX will work to calibrate this method and better learn how the information obtained can lead to new discoveries about star formation.

“With this method, we can analyze what happened in a particular time. Using an archetypical analog, we can see the fossils from history in the actual archetypical layers instead of having it dug up and laid out in front of us on the floor,” said Martin.

Stars often have different masses and larger stars tend to burn brightly and hotly, which also leads to a shorter lifespan. During star formation, a UV flash is emitted. Using the observance of the UV flash and the brightness of stars, the mission will be able to determine the relationship between the magnitude of the UV flash and the star formed.

Through GALEX, Martin and staff also hope to calibrate the method to the known universe and find out about the history of the universe. Comparing the new with the old information, they can make a comparison of the history of the galaxy, through the history of star formation. Furthermore, the study of star formation contains a broader application for Martin.

“The history of star formation is also the history of the formation of chemical elements,” said Martin.

Thirdly, the mission hopes to discover the mechanism behind star formation, how it all works. Currently, a question that many astronomers wonder about is why young stars tend to form groups and causes stars to form. Many know that when galaxies merge or become unstable, stars are formed, but why this occurs is not known in detail.

Recently, GALEX has been able to observe the formation of new stars in the streamers of gas which are pulled off when two galaxies interact close to each other. Furthermore, they have been able to observe luminous-UV galaxies, which can study to understand young galaxies such as those from the history of the universe. These are known to differ from present galaxies, but the reason why is unknown.