

Dean Gilmartin talks about feminism

EMILY MAZO
Contributing Writer

What is your personal definition of feminism?

It comes in two parts. Clearly there is the sense that we all deserve the same opportunities. Yet in some ways I think the more important thing is the realization that we're not there yet. Feminism can't simply be a state of mind—it also needs to be a commitment to ongoing change.

Why are you a feminist?

In some sense, it's just so obvious. I'm not sure why or how one wouldn't be. In my own lifetime I've seen so many advances in terms of opportunities - when I was in graduate school it was clear to me that changes were going on in humanities programs that were not yet going on in the sciences. That was very vivid to me, and it's been welcome to see the process continue across the disciplines since I've come to Caltech. So part of it is my own life experiences, and realizing that I've lived through a phase of history in which many things have changed, but there is still so much to be done.

Could you tell us how Caltech has changed, since you got here?

Certainly, we have many more female undergraduates. One of the interesting things about being a humanities professor is that I often feel I've seen the future of Caltech. It was about a decade ago that I started to see more than fifty percent women in my classes. I taught a Jane Austen class recently that had just two male student. And the dynamic changes, there is a real tipping point when gender balance is reached. It was just extraordinary to me how the intellectual dynamic in the classroom changed, as well as the social dynamic. When I first arrived here, I taught a freshman humanities course with both Robinson Crusoe and Jane Eyre on the syllabus. I think there were perhaps two female students. And there was overwhelming complaint that Jane Eyre was a girls' book. That was challenging to me as a young professor. How could I work with that kind of response? It's the kind of thing that happens in an intellectual environment that is not widely representative. While we're not to the point of gender balance in the undergraduate population, but I've seen what happens in a classroom when you get there, and

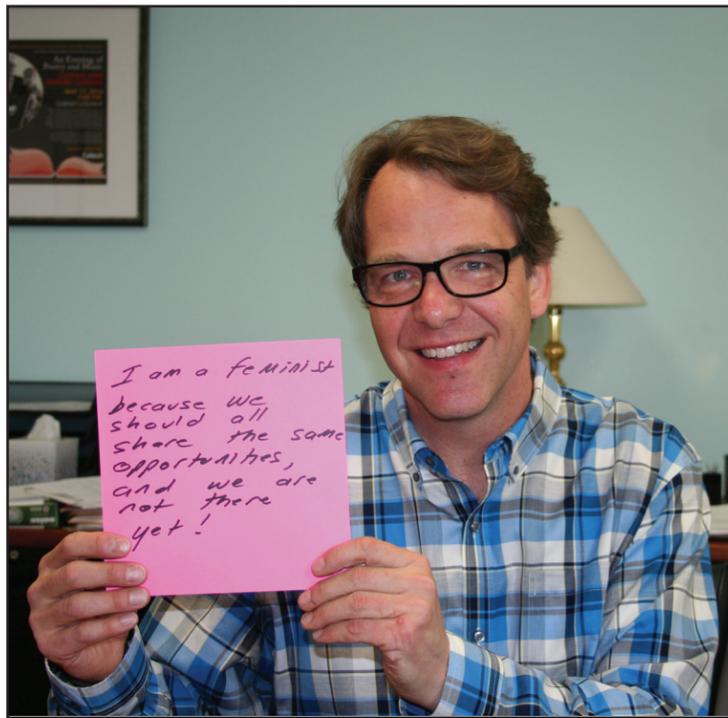


Photo Courtesy of Emily Mazo

it's absolutely transformative. In fact, I just met with a student who returned, after graduating eight or nine years ago, at a point where she said the ratio dipped back to thirty [percent female], and she described experiences as a first year student that I expect were quite different from what goes on now.

What do you think feminists here on campus can or should do to improve our community?

I'm glad you asked the question by starting with "What feminists should do" instead of "What women should do..." because I wouldn't want to impose expectations for what female students should or should not do. A

Caltech undergraduate education is challenging enough, without the added responsibility of changing the institution one inhabits. As far as what feminists should do, I would go back to my earlier point about not taking for granted that anything is finished. Another important thing is to look at the Caltech community as a whole. It wasn't until I became Dean that I first received a group email addressed to "Ladies." That gave me pause. And it's because the administrative world of the Dean's office and student affairs includes a lot more women in leadership roles than the world of our professorial faculty. I remember thinking, "this is the first time that as a man at Caltech I've been made to feel that I'm not a part of the team-and how many times would I have felt that as a female faculty member, when a meeting started with 'Hey guys?'" It was an enlightening moment for me. Student affairs at Caltech is a substantially much more diverse group, across many dimensions, than the Caltech faculty. When we think about diversity we can't just look at the campus as a whole, and think we're doing a great job, because there are parts of the campus where significant work still needs to be done.

Discovering India with India Ki Khoj

KAVYA SREEDHAR
Contributing Writer

When I visited in India in elementary school, it was like I had stepped into a whole other world for the summer. In my eyes, this was a world where people bargained at street markets on a regular basis, a world with no traffic lanes or traffic lights yet somehow everything seemed to flow naturally, a world where my dollar could buy so much. This was a world where I could eat those Indian cookies I loved all the time, a world where instead of hot chocolate powder I mixed an Indian chocolate mix, Bournvita, with milk. This was also a world where even as an eight-year-old, I saw a lack of proper garbage disposal leading to traffic accidents, extreme pollution leading to asthma, and stray dogs lying in roads and neighborhoods.

As I grew older, I became curious about why these two worlds—the one I lived in and the one where my family came from—were so different. On the Caltech Y's India Ki Khoj (Discover India) trip, I saw that while some things, like bargaining, had stayed the same, others had changed: There were traffic lanes, even the occasional

traffic light (people mostly followed them!), and an improved garbage disposal mechanism in some areas. Yet, this trip brought forth discussions of more complex issues that I hadn't realized when I previously visited India back in elementary school.

While India is a proponent of democracy like the US, inequality in general is still prevalent due to deeply ingrained cultural and societal values about gender roles and structures such as the caste system. One talk that particularly stood out to me and addressed this topic was led by our first speaker, Professor Chinmay Tumbbe from IIM Ahmedabad. He spoke about how traditional gender roles and the caste system affect migration patterns and urbanization progress in India. The professor focused on masculine urbanization and remittance urbanization to highlight how India's urbanization and migration patterns differed from most other countries.

Migration in India is highly contingent on networks and knowing people in the area to which you are about to move. However, what caste a person is impacts what jobs they can have and what networks they have

access to. In that sense, rural to urban migration is "positively selected" as only the upper castes have the ability to move.

Unlike China and a lot of other countries, men migrate more than women in India. However, men who migrate for work continually send back money to their families with the intention of returning back home and being replaced by the next generation of men. This results in a lot of people moving, but little net migration and thus little urbanization. Due to this absence of migration, India has actually been "deurbanizing". While the death rates between rural and urban areas have converged to the same limit, there are more kids being born in villages. Thus, in contrast to other countries, India's rural population has been growing, particularly in the North. In addition, more than half of India is not served by a metropolitan center.

The professor suggested that to encourage more women to migrate, there need to be more spaces created in cities for women to live. Currently, cities are dominated by male-only housing and communities. The speaker ended by saying that if we solve

the problem of a lack of migration for education by building more dormitories for women and being inclusive of all castes, we can then begin to solve the problem of a lack of migration for work regardless of gender and caste. However, he also noted that we need to realize that while building physical structures might take time, changing mentalities will take even longer.

Other talks illustrated the unique construction and layout of Ahmedabad, the city we were visiting. We learned about pols, a Gujarati word meaning residential area, and got to visit an area and walk around the houses the next day. There were even secret tunnels constructed within the houses for protection and evacuation purposes. We visited several mosques on the trips and learned that every mosque must indicate the direction of Mecca. We saw large text of the Quran written on mosque walls like murals. We also went to Adalaj, a step well. Step wells became increasingly common in Northern India, built by the rich who wanted to be known as generous. As time went on, these step wells also became places to rest and were built along trade routes. Ahmedabad, as a result,

became a huge trading center, and we got our own share of shopping and bargaining for prices in the 10 days we were there!

Our trip included a stop at Gandhi Ashram (Gandhi's house) and Basan Village, where we got to talk with children playing the game of cricket and waiting for school to start. Within our packed schedule of lectures and visits, we also watched two Bollywood movies, Kahaani (translating to Story; 10/10 would recommend) and Kahaani 2 (less plot twists and also personally a little scary; 5/10 might recommend if you're up for intense, dramatic, scary music), ate plenty of Indian food at IIT Gandhinagar (the college campus we were staying at), restaurants, and street shops, and spent time talking and playing board games with IIT Gandhinagar students.

The Caltech Y India Ki Khoj trip is an annual trip during the beginning of winter break and is part of a collaboration between Caltech and IIT Gandhinagar in India. Special thanks goes to the Caltech Y Staff for organizing and preparing for the trip and all the students and professors we meet at IIT Gandhinagar that made our trip so enjoyable!

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What does the ARC do?

TIM LIU
Contributing Writer

The Academics and Research Committee (ARC) is the academic branch of ASCIT, charged with improving academics at Caltech. Throughout this term, each of the eight houses will hold elections for excomm and other positions, include house ARC reps. This article is a quick description of what the ARC does, and what being a house rep entails.

Broadly speaking, the goal of the ARC is to improve academics at Caltech. ARC members work with the Deans, the CTLO, and with faculty to improve courses and to address academic concerns. Some of the different tasks and projects that ARC members do include:

Student Faculty Lunch - One of the goals of the ARC is to promote student-faculty interaction. The Student Faculty Lunch is a once a term event where about 30 students are chosen to have lunch with 5 faculty members. Since demand usually outstrips the number of seats, we're hoping to expand the program.

Mathematica/Software Seminar - The ARC runs a series of software seminars where an instructor gives a crash course on how to use a specific piece of software. Last term, Tal Einav taught Mathematica to about 45 students. The ARC is working on putting together seminars for other commonly used software packages.

Option Fair - The option fair is similar to the annual club fair. Tables are set up on the Olive Walk, and each option sends students and faculty members to advise frosh on which option to declare. The option fair will be held winter term this year, and usually takes three or four ARC members to organize.

Analyzing Survey Data - Administrators often turn to the ARC when they want a feel for student opinion, or to collect data that is later used to guide academic policies. The ARC has run surveys on the amount of time spent on core classes, preferred set due times, and midterm grade reports. The data from these surveys is then analyzed and written up into a report. Results from past surveys have been reported to the Faculty Board, the Deans, and the Core Curriculum Steering Committee.

Ombuds Training - At the start of each term, the ARC and the Center for Teaching Learning and Outreach (CTLO) run a training session for ombuds. During training, we share ways to gather course feedback, communicate with professors, and be an effective ombudsperson.

These are just some of the many projects ARC members have worked on. As a house rep, there are also a few house-specific roles outside of the different projects you take on:

Forwarding emails - news about programs and seminars is often

passed through house mailing lists through house ARC members

House Peer Advising - Once a term prior to registration, house ARC reps will sometimes organize a peer advising event for house members to discuss what classes to take and give academic advice

Add cards, conflict cards, blue books - In some houses, the house ARC rep is responsible for providing blue books, add cards, and conflict cards to the house.

Finally, ARC reps are often used as a source of academic information. Questions such as which classes can be taken on pass fail or how to declare a minor are often answered by ARC reps. The minimum time commitment for an ARC member is coming to a 1 hour meeting once a week. On average, house ARC members spend about 2-3 hours a week depending on how many projects they take on, though this number can vary widely throughout the term. If you have more questions about the responsibilities of being a house ARC rep, feel free to contact me at tliu@caltech.edu or ask your house ARC rep:

- Avery - Richard Zhu
- Blacker - Allison Tang
- Dabney - Michael Seaman
- Fleming - Cece Andrews
- Lloyd - Reeti Gulati
- Page - Avikar Periwal
- Ricketts - Ariel Hasse
- Ruddock - Akshay Srivastava

Student Faculty Conference

TIM LIU AND AKSHAY SRIVASTAVA
Contributing Writers

A biennial conference held to improve undergraduate academics

What is the SFC?

The Student Faculty Conference, or SFC, is a daylong, campus-wide symposium convened with the purpose of improving undergraduate education at Caltech. The SFC is organized by the ARC once every two years in effort to give both students and faculty the chance to evaluate and develop the Caltech educational experience. In order to make the SFC run as smoothly as possible, the ARC breaks the conference into a multitude of smaller committees, of which there are two main types: option committees and special committees.

The option committees are formed with the sole intent of improving the educational experience within specific options, thus these committees are comprised of relevant students and faculty that work in concert to evaluate and improve the areas of study that they represent. Each option committee was formed earlier in the fall term, and has already begun gathering feedback and developing recommended changes to the options.

The second type of committee is the special committee, which consists of unique committees convened to discuss topics relevant the year of the SFC. The purposes of these committees vary widely from year to year, and this year we have three different special committees that will be discussing the pressing issues in undergraduate education.

What are the special committees this year?

The special committees this year will be discussing computing education, industry opportunities, and changes to the core curriculum.

The Computing Education Committee will be chaired by Jay Palekar, and has the task of evaluating how computing is integrated into Caltech's curriculum overall. So far, the committee has focused on studying a potential restructuring of introductory CS courses in order to meet the needs of both CS and non-CS majors. Within this topic, the committee will also discuss possibly making CS 1 a part of core.

The Industry Opportunities Committee will be chaired by Nikita Sirohi, and will analyze the resources that Caltech offers to help students find both jobs and internships in industry. The committee includes not only students and faculty, but also certain alumni and contacts at the Career Center, who will discuss, amongst other things, how faculty and alumni can more formally help students break into industry from Caltech.

Finally, there is the Core Curriculum Committee, which will be chaired by Anusha Nathan, and will convene to analyze the current state of the core curriculum and suggest improvements to adapt the central tenets of Caltech education to meet contemporary standards. Issues this committee hopes to address specifically include the restructuring of freshman seminar/menu class requirements, HSS requirements and the staggering of core set deadlines.

What happens the day of the actual SFC?

The SFC itself will take place on Wednesday, February 1, over the course of two sessions: a morning session and an afternoon session. The morning session will consist of each of the special committees reporting on their respective findings, and allowing for questions from the audience. This session will be held at 10 AM in Ramo Auditorium, and will be open to the entire Caltech community. Lunch will be provided afterwards for those in attendance.

The afternoon session will consist of several breakout sessions for each of the options. Each option committee will schedule its own breakout session independently throughout this afternoon, and will use this time to present the findings of that option committee, and to host a discussion concerning the proposed changes along with the option in general. Note that some professors may cancel classes to allow students to attend the SFC.

How can I get involved?

The SFC only works because of undergraduate involvement, and so we hope that this year as many undergraduates as possible will contribute to the conference. The easiest and best way for you to get involved is to go to the SFC. Both the option committees and special committees will be looking for discussion and feedback, so please attend the sessions and contribute your ideas. Additionally, over the next couple of weeks, you may receive surveys and questionnaires from the various committees, and so please fill these out. The more information that the committees can gather from the undergraduate community at large, the more successful they will be in addressing the problems that need to be resolved.



Group photo of the students on the India Ki Khoj trip. Story on page 1

Photo Courtesy of Kavya Sreedhar

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Caltech Y Column

CALTECH Y

The Caltech Y Column serves to inform students of upcoming events and volunteer opportunities. The list is compiled by Katherine Guo from information given by the Caltech Y and its student leaders.

Upcoming Events

1. Candlelight Vigil in Honor of Martin Luther King, Jr

Tuesday | January 17th | 5:30PM - 6:00PM | Red Door Café
Join the Caltech Center for Diversity and Caltech Y for a Candlelight Vigil honoring the life and service of Martin Luther King, Jr. Representatives from the Black Ladies Association at Caltech (BLAC), as well as Black Students at the California Institute of Technology (BSCIT) will lead us in remembrance, prayer, and a moment of silence as we take this brief time to give recognition to the legacy of MLK. For more info, please email apinkney@caltech.edu and RSVP at diversitycenter.caltech.edu/RSVP

2. Hidden Figures Discussion

Wednesday | January 18th | 12:00PM - 1:00PM | Center for Student Services 2nd Floor Common Area
The film *Hidden Figures* tells the powerful story of three African-American women who were instrumental in launching NASA's first human space missions. Join the Caltech Center for Diversity and Caltech Y as we discuss themes (i.e. race and gender barriers in STEM fields), responses and reactions to the film, as well as how we can all learn and benefit from this true story being told. For more info, please email apinkney@caltech.edu and RSVP at diversitycenter.caltech.edu/RSVP

3. Keynote Address by Dr. Robert Ross

Thursday | January 19th | 12:00PM - 1:00PM | Dabney Hall
Robert K. Ross, M.D., is President and Chief Executive Officer for The California Endowment, a health foundation established in 1996 to address the health needs of Californians. During his tenure at The California Endowment, the foundation focused on the health needs of underserved Californians by championing the cause of health coverage for all children, and strengthening the pipeline for bringing racial and ethnic diversity to the health professions. Join us he shares his Keynote Address honoring the legacy of Dr. Martin Luther King Jr. Lunch will be provided. Coordinated by the Caltech Center for Diversity and Caltech Y. For more info, please email apinkney@caltech.edu and RSVP at diversitycenter.caltech.edu/RSVP

4. "I Have A Dream" Audio Visual Presentation

Friday | January 20th | 12:00PM - 1:00PM | Red Door Café
This past summer marked 50 years since the historic March on

Washington and the iconic "I Have A Dream" keynote speech delivered by Dr. Martin Luther King, Jr. Come hear Dr. King's most famous speech, along with a few other of his most iconic speeches, and discover why it is still significant today. A display, and handouts, will provide the text for those who would like to follow along. For more info, please email apinkney@caltech.edu and RSVP at diversitycenter.caltech.edu/RSVP

5. MLK Service Project - Union Station Adult Center

Saturday | January 21st | 5:15PM - 9:15PM | 412 S Raymond Ave Pasadena, CA 91104

Prepare serve dinner to the residents at Union Station Adult Center in Pasadena. Food and materials are provided. The Adult Center provides shelter, meals and supportive services for more than 150 homeless men and women each year. For more info and to RSVP email nsirohi@caltech.edu

6. Ecuador Alternative Spring Break Trip

March 18th - 26th | Ecuador
Applications available NOW | Due January 20th

The Caltech Y is excited to announce a 2017 Alternative Spring Break trip to Tena, Ecuador. Join other Caltech Students and experience a non-traditional spring break this year. On the Ecuador trip we will be working with a host organization MEDLIFE www.medlifeweb.org - which works in poor communities to improve access to medicine, education and community development - and staying in the local community where we will have the opportunity to explore some of Tena's great national parks and biodiversity. Don't miss out on this fantastic opportunity to explore another place and culture while making a tangible difference in the world.

A brief application asking about why you are interested in the trip, experiences and skills that would contribute to the group, and your opinion on the objectives of foreign community service is now available and due by January 20th. The Ecuador Alternative Spring Break trip is coordinated by the Caltech Y in partnership with the Caltech chapter of MEDLIFE and is possible thanks to generous funding from the Frank and Elsie Stefanko Fund, the George Housner Fund, Caltech Student Affairs, and the Caltech Y. Don't miss out!

Get the application here - https://caltechy.org/programs_services/areas/asb/index.php

7. Orbit Pavilion at Huntington - Caltech Y Explore LA Series

Saturday | January 21 | 1:00 pm | Huntington Gardens | Transportation NOT provided

Tickets sales begin: Friday, January 13th at 1:00pm at the Caltech Y | Subsidized Cost: \$12 | Tickets are limited

Tickets are available for students only, but students may sign up a guest (and that guest may be a non-

student). Sales are first-come first served.

The Orbit Pavilion is the brainchild of Dan Goods and David Delgado, visual strategists at NASA's Jet Propulsion Laboratory who worked in collaboration with composer Shane Myrbeck and architect Jason Klimoski of StudioKCA to produce an innovative "soundscape" experience representing the movement of the International Space Station and 19 Earth Science satellites. Inside the large, shell-shaped sculpture, distinctive sounds are emitted as each satellite passes overhead: a human voice, the crashing of a wave, a tree branch moving, a frog croaking. Each sound interprets one of the satellites' missions.

Entry tickets are good for all day at the Huntington Library and Gardens, so feel free to enter whenever you wish, and stay after to explore as well, but come join us at the Orbit Pavilion at 1 pm-Dan and Dave will be at the Huntington to discuss their creation and answer questions!

8. The Caltech Y Social Activism Speaker Series (SASS), Caltech Center for Diversity and Caltech Feminist Club present: Trafficking, Technology and Data-Driven Justice with Dr. Jennifer Musto

Thursday | January 26 | 12:00 to 1:00 pm | Center for Student Services 2nd Floor Common Area | Lunch is provided (spaces are limited)

RSVP: <https://goo.gl/forms/Zoiu8e5LtgQ5l7uh2>

In this presentation, Professor Musto will draw upon chapter excerpts from her book *Control and Protect: Collaboration, Carceral Protection, and Domestic Sex Trafficking in the United States* (University of California Press, 2016) to describe how technology in general and data-driven innovations in particular are being leveraged to respond to human trafficking in the United States. In addition to highlighting how tech-oriented interventions blur the boundaries between state and non-state anti-trafficking activities, this

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Caltech Division of Science and Geobiology*

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talk will draw attention to some of the risks that accompany these projects and consider how they might be reimagined to better support people who have been in exploitative trafficking and labor situations. A cash-only book signing will follow the event.

Jennifer Musto is an Assistant Professor of Women's and Gender Studies at Wellesley College where she teaches courses on gender, sexuality, race, technology, neoliberalism, and globalization. She has lectured widely on the laws, policies, and technologies designed to respond to human trafficking.

9. Hathaway Sycamores

Every Wednesday | 5:30 - 8:00 PM | Highland Park
Volunteer at Hathaway Sycamores, a group that supports local underprivileged but motivated high school students. There are a variety of ages and subjects being tutored. The service trip includes about an hour of travel time and 1.5 hours of tutoring. Transportation is included.

For more info and to RSVP email Sherwood Richers at srichers@tapir.caltech.edu. Eligible for Federal Work Study.

10. Pasadena LEARNS

Every Friday | 3:00 - 5:00 PM | 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 azhai@caltech.edu. Eligible for Federal Work Study

Beyond the Y 1. Coaches needed for Girls on the Run

Come inspire girls to be joyful, healthy, and confident!

Girls on the Run Los Angeles needs passionate people just like YOU to join our team of Coach/Mentors in a transformational after school program for girls in 3rd-8th grades. GOTRLA creatively integrates running into character development lessons that inspire girls to love who they are, have healthy relationships, and make a difference in their community. We love to see girls activate their limitless potential.

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You can make a difference and encourage girls to realize their full potential! Sign up today: <http://www.gotrla.org/coach>

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Mailing list and MP3 archive:
counseling.caltech.edu/students/meditation



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Young core, star leaders fueling men's fencing

GOCALTECH.COM
Actual Sports Content Editor

PASADENA, Calif. (Jan. 13, 2017) – After a season that included three NCAA wins and a second-place finish in the IFCSC, Caltech men's fencing is ready to challenge for its first conference title behind a young core made up of multiple NCAA Championships hopefuls.

With key contributions in two of those three NCAA wins and another four weapon victories against the likes of Air Force and the University of North Carolina, the épée squad paced Caltech throughout last season and looks to do so again thanks to the return of its tri of stalwarts. Rookie sensation Qifan Wang was one of four Beavers to qualify for the NCAA West Regional in the weapon and came out on top of the group at the IFCSC Championships, earning the gold medal. The top point earned as a cadet in Canada prior to his arrival on campus, he also picked up a silver in a Division I A Regional Open Circuit competition in late February while defeating a whopping 18 fencers rated 60 or better.

He has already picked up where he left off, matching his 2015-16 finish of 11th place at the elite BladeRunner ROC in November.

Junior Ethan Lo and sophomore Alex White provided a potent 2-3 punch behind Wang and will reprise those roles in 2017. Both qualified for the West Regional, with Lo earning a silver medal behind Wang in the IFCSC while White more than lived up to his 'C'-rated billing in his rookie season, beating five 80-rated fencers. Junior Spencer Strumwasser, another West Regional qualifier, is set to rejoin the team after studying abroad during the fall term, as is senior Johnathan Stauffer after a one-year hiatus.

Sophomore Julius Oppenheim was the team's lone West Regional qualifier in saber after converting from épée. He will team with senior Kai Chang, who fronted the team as a sophomore, and sophomore Aaron Shih. Senior Keegan Mendonca is the lone returner in foil, but with seven newcomers joining the team, surely will not be on his own for long.



Peng lights it up in loss

GOCALTECH.COM
Actual Sports Content Editor

CLAREMONT, Calif. (Jan. 7, 2017) – Sophomore Grace Peng had a huge offensive day for Caltech women's basketball in Saturday's SCIAC road tilt with Claremont-Mudd-Scripps Colleges.

The Beavers' point guard led the way with 22 points, nine of which came in the fourth quarter. Much like how fellow freshman Samantha D'Costa did in the team's previous game against Occidental College, Peng really found her rhythm from three-point land. She converted on four of her six attempts from

long range which resulted in more than half of her points. She also went 7-for-12 from the field and made four out of her five free throw attempts.

Caltech opened the game with a promising 15-8 first quarter, but really fell behind in the middle two frames before battling back with an improved fourth quarter which featured two of Peng's three-pointers.

D'Costa, meanwhile finished out the day with 10 points, five rebounds, two assists and two steals. Senior Kate Lewis appropriately rebounded from a four-rebound performance in the previous game with 11 rebounds to go with four points, two steals and two blocks.



Dun nun nuh nah na naaaa - CHHAAARRRRGEEEEEE!

-gocaltech.com

Al-Rayes career night propels men's hoops to SCIAC opener win

GOCALTECH.COM
Actual Sports Content Editor

PASADENA, Calif. (Jan. 3, 2017) – Senior Nasser Al-Rayes scored a career-high 24 points and completed the double-double with 12 rebounds in the Caltech men's basketball team's 95-83 SCIAC-opening victory on Tuesday night.

With the win, Caltech starts SCIAC play 1-0 and breaks into a five-way tie for first place in the conference while Whittier drops to 0-2 in the SCIAC.

Al-Rayes started the scoring for the Beavers with two free throws and it was back-and-forth from there. After Caltech went up 7-4, Whittier fired back with an 8-0 run to take the lead, but senior Ricky Galliani hit his second of four three-pointers to cut into the margin and fired up the Beavers' offense. Sophomore Brent Cahill would then enter the game and rattle off the next 11 points for Caltech as the hosts took back the lead from Whittier, 21-20.

The Beavers briefly stretched that lead to five before Whittier came back to tie the game at 33-33, but a layup by senior David LeBaron, an Al-Rayes jumper and Galliani trifecta staked the Beavers to a game-high seven-point edge with 3:26 remaining in the half.



Nassar makes an offering to the basketball gods, putting his height to good use.

-gocaltech.com

The Poets fired back with a flurry of scoring, but it was met shot-for-shot by the Beavers, including an Al-Rayes dunk in the final minute. Sophomore Andrew Wang layed in an acrobatic shot with 11 seconds on

the clock to keep it a two-possession game, but Poets leading scorer Louis Kurihara nailed a deep three-pointer at the buzzer to cut the lead to two going into the half, 44-42.

Caltech kept its offense rolling in the second half as LeBaron scored back-to-back buckets in the opening two minutes, with both baskets assisted by Al-Rayes. Another Galliani three began a seven-point run for Caltech before Whittier would score again and call a timeout. LeBaron kept the scoring going with a free throw and three-pointer to give Caltech its first 10-point lead of the contest with 14:26 remaining in the game, then sank a layup to negate a pair of Poets free throws.

Al-Rayes and Cahill then combined to score 17 of the Beavers' next 19 points before freshman Alec Andrews earned several trips to the free throw line, contributing to a game-high 18-point lead with 2:34 left to play. As Whittier resorted to fouling, the Poets managed to cut into the deficit a bit, but never came closer than nine. Al-Rayes capped the impressive team performance and set his new scoring mark with a thunderous dunk that sent the packed crowd into a frenzy.

Four Beavers scored in double digits, with Cahill notching 21 off the bench on 6-for-9 shooting and 9-for-11 from the free throw line. LeBaron and Galliani scored 18 and 15, respectively, with LeBaron adding five assists and Galliani grabbing nine rebounds.

Counseling Center Groups and Workshops

Winter Term 2017

The counseling center is excited to announce our workshops for the Winter term:

Workshops

Catalyst: A 3-week workshop teaching general coping skills

Refresh: A 1-hour workshop teaching how to get better sleep

Emotion Lab: A 1-hour workshop to recognize your emotions better

Spark: A 1-hour workshop to cope with procrastination and work avoidance.

Groups

Social Confidence: A 7-week week group for anyone who'd like to be more comfortable and less anxious in social situations. Pre-screening required; see the webpage for more information. Begins 1/23.

Mindfully Resilient: An 8-week group focused on reducing the risk of relapse for depression and anxiety. Pre-screening required; see the webpage for more information. Begins 1/12.

For the full list of workshops, dates, and times, visit:

counseling.caltech.edu

and follow the link to the new classes and workshops.

Friends: How many is too many?

ANDREW MONTEQUIN
Contributing Writer

“Primates, as a group, are characterized by having unusually large brains for their body size.” When anthropologist Robin Dunbar published that sentence, the first in his now famous paper from 1992, he was frustrated by the lack of quantitative evidence available to explain this phenomenon. It was believed that a larger brain and the greater cognitive powers that come with it could be selected for either due to the social advantages (forming cliques, outsmarting others, etc.) or the ecological advantages (foraging for fruit) provided, but there was little concrete evidence supporting one hypothesis over the other. After choosing appropriate metrics for measuring brain size and behavioral complexity for different social and ecological variables, Dunbar performed a regression analysis to measure the correlation between brain size and these behavioral variables.

To spare you the details of Dunbar’s statistical analysis, I’ll go ahead and say that, after correcting for body size, he found the greatest correlation between brain size and group sizes. However, if he had stopped there, I probably would not be spending my time writing a Tech article about the study 25 years later. In a follow-

up paper published the next year, he extrapolated from the data he had on other primates to make a prediction on the cognitive limits of human group sizes. Doing so led him to the conclusion that on average, a group of about 150 people is the maximum size for which an individual can mentally “keep track of” all of the possible relationships between other members of that group. Furthermore, he noticed that 150 was roughly the maximum size of many early hunter-gatherer groups and even some businesses were made up of groups of about 150 people working together. Over time, this group size has become appropriately known as “Dunbar’s Number” and, even if more emphasis is placed on it than it may deserve (150 is just a mean and the 95% confidence intervals are huge), the idea of having a cognitive limit to social interactions is profound but far too easy to overlook.

Most people will agree that Caltech, with fewer than 1000 undergraduates, is a “small” school. However, it is highly unlikely that the student body is small enough to form a single stable social group of the kind that Dunbar studied. In light of this limit proposed in the 1990s, it is all the more interesting that, with the construction of the South Houses six decades earlier, a decision was made at some point to divide the student body into even smaller social groups. While

that decision may or may not have been completely arbitrary at the time (the four new houses replaced five existing fraternities), it has certainly made a huge impact on student life over the years. Houses have equilibrated at a size that is small enough so that any member can reasonably have a stable social relationship with any other member and that distinct cultures can thrive, but still large enough to organize regular social events, form governments and maintain diversity of opinions. Many of us have probably spent surprisingly little time thinking about what the houses would be like if they were not so conveniently sized, as there have been few reasons to do so in the past. However, questions like these will be unavoidable in the coming years as the construction of Bechtel will soon introduce over 200 new beds to undergraduate housing.

Deans’ Advisory Council

NIKITA SIROHI
Contributing Writer

The Deans’ Advisory Council was created to provide an additional opportunity for the Caltech Deans to receive feedback and to discuss issues of concern with students from a variety of backgrounds. As it’s currently only in its third year and as such might not immediately come to mind, the purpose of this article is to (re) introduce the council and its purpose; to list the council members; and to remind students, staff, and faculty that the Deans’ Advisory Council (DAC) is a resource available to them if need be.

The group often serves as a sounding board for the Deans’ on topics of concern, and is also responsible for relaying any concerns brought forward to individual group members by their peers or by others affiliated by Caltech. Students and staff should feel more than free to discuss current campus issues with any member of the Council, and to bring up concerns to the Council relating to any aspect of student life. Some past topics have included the alcohol policy, the independent studies program, the varying graduation rates between houses, and campus security.

The current members of the DAC are (all emails are @caltech.edu):

- Andrew Montequin (Sr, Bioengineering, Ricketts, amontequin)
- Kate Evans (Sr, Geobiology, Blacker, kevans)
- Ricky Galliani (Sr, Computer Science, Fleming, pgallian)
- Jenny He (Sr, Chemistry, Avery, jhe)
- Olivia Hinderer (Jr, Biology, Avery, ohinderer)
- Ted Hu (Sr, Electrical Engineering, Ruddock, thu2)
- Stephanie Huard (Jr, Biology, Ruddock, shuard)
- Netgie Laguerre (Sr, Chemistry, Dabney, nlaguerre)
- Tim Liu (Jr, Electrical Engineering, Ruddock, tliu)
- Lilly Luo (Sr, Applied and Computational Mathematics, Fleming, lluo)
- Daniel Molina (Jr, Physics, Page, dmmolina)
- Carly Robison (Jr, Computer Science, Blacker, crobison)
- Jeff Rosenberg (Sr, Chemistry, Blacker/Ricketts, jrosenbe)
- Alex Ryan (Sr, Computer Science, Ruddock, atryan)
- Bobby Sanchez (Sr, Geophysics, Lloyd, rmsanche)
- Nikita Sirohi (Sr, Computer Science, Ruddock, nsirohi)
- Kristie Yu (Sr, Biology, Lloyd, kbyu)

ASCIT Minutes

Meetings are every week in SAC 13

ASCIT Board of Directors Meeting

Minutes for 11 January 2017. Taken by Alice Zhai.

Officers Present: Andrew Montequin, Tim Liu, Sakthi Vetrivel, Robin Brown, Alice Zhai

Call to Order: 12:20pm

President’s Report (Andrew):

- First town hall meeting is about the design of Bechtel
- Considering publishing the ASCIT budget
- Will talk to BoC and CRC chairs about amending bylaws to mention studying abroad while holding student positions

Officer’s Reports:

V.P. of Academic Affairs (ARC Chair: Tim):

- ARC sent out a list of professors looking for undergraduate research
- SFC is on February 1st
- Will be meeting with special topics committees
- Will be looking through past ARC survey

V.P. of Non-Academic Affairs (IHC Chair: Bobby):

- Absent

Director of Operations (Sakthi):

- Meeting with Elise and Tom to discuss getting new computers for Yearbook - writing MHF proposal for them

Treasurer (Kalyan):

- Absent

Social Director (Robin):

- Winter Carnival is happening on February 11th
- Will send MHF proposal for the ice rink
- Need to start planning Be a Kid Again Day

Secretary (Alice):

- Meetings have been moved to Thursdays at 12:15PM

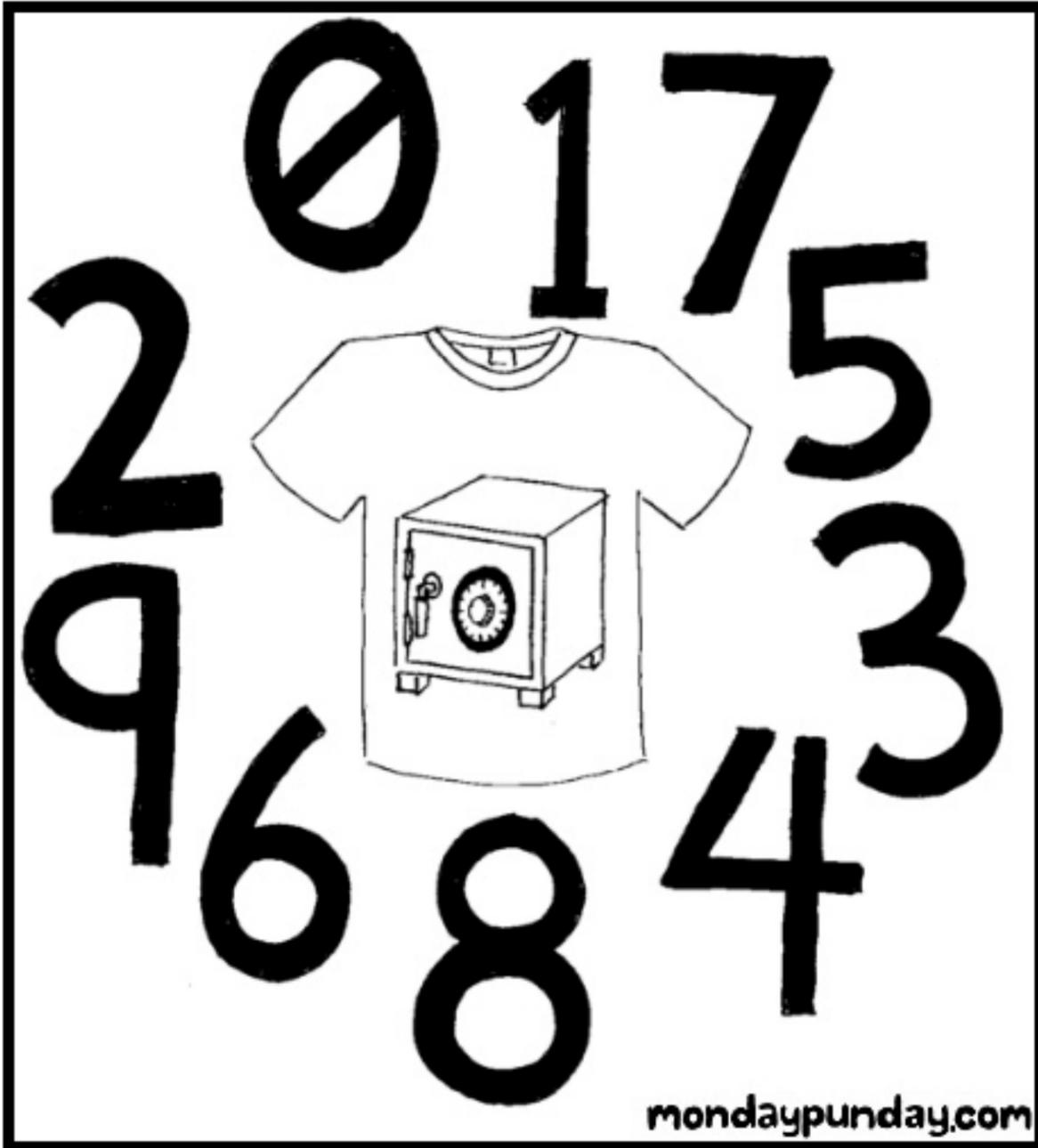
If anyone has any questions or concerns about a section of the minutes please email the appropriate officer. We are happy to answer any questions.

Meeting Adjourned: 12:46pm

Word Search

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Monday Punday

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Think you know the answer? Take a guess at mondaypunday.com/316

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Jon Cotler
Katherine Guo

Page Editors

Ramya Deshpande
Tanvi Gupta
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Hye Joon Lee
Maitreyi Nair
Ciara Ordner

Contributing Writers

Tim Liu
Emily Mazo
Andrew Montequin
Nikita Sirohi
Kavya Sreedhar
Akshay Srivastava

Contributing Photographers

Kavya Sreedhar

Circulation Manager

Kit Chinetti

Advisor

Richard Kipling

The California Tech

Caltech 40-58
Pasadena, CA 91125