FREE COOPER SHINES RED ONCE MORE
ANUSHREE SREEDHAR (CH’18)

The close of the semester saw Free Cooper Union’s final student action for the year, the first year of Cooper’s halftuition policy. From the red lights that glowed throughout the freshman dorms, to the global press received by reformed founder in Ho-Co, Free Cooper finished last semester with a bang. On December 11, 2014, the traditional Cooper Union flag on the Foundation building was replaced with a fiery red flag on the Cooper Union Alumni Association annual wreath laying ceremony. Not only did Free Cooper return on the painted red box. The night also allowed for a variety of performances, in improvisation and humor. A group of performers in “Senbonzaku-ra” in a kimono, amusingly revealed that “everything was wrong that night. My guitar didn’t work, the keyboard didn’t work, there was something wrong with the cables, so at the end we didn’t try to do it right and just have fun.” The Ravel Chamber Ensemble, for instance, was an all-senior group who played the harp, flute, clarinet and string quartet. “I am extremely grateful to have the opportunity to perform with my classmates. We have been planning since sophomore year and rehearsing all of last semester,” explained Sophie Lee Lamdau (CH’15), who played the harp in the ensemble.

The performance comprised individual and small group performances. Zach Chang (EE’16), who played the guitar in “Seihoumakura” in a kimono, amusingly revealed that “everything was wrong that night. My guitar didn’t work, the keyboard didn’t work, there was something wrong with the cables, so at the end we didn’t try to do it right and just have fun.” The Ravel Chamber Ensemble, for instance, was an all-senior group who played the harp, flute, clarinet and string quartet. “I am extremely grateful to have the opportunity to perform with my classmates. We have been planning since sophomore year and rehearsing all of last semester,” explained Sophie Lee Lamdau (CH’15), who played the harp in the ensemble.

Multiple school clubs also performed. Coopernova performed a hip hop routine of “The Show Goes On” by Lupe Fiasco, a routine that they were going to perform in the US Championships later this month. The breakdance team broke down to amazing freeces and headstands that awed the audience. Johnny Chen (ME’17) said that “During the performance, I felt like I had talent. That’s why it’s called the talent show. I did the talent show last year for breakdance, but this year I did it with Coopernova as well. It was really fun and comfortable to do things with people I knew. I am usually shy going on stage so there was some stage fright but knowing that I am on stage with my dancing family makes everything a lot better. I do say there are only two more years for me in Cooper.” And at the end, Coopernova performed an A cappella medley on “Zedd Medley,” “Pompeii” and “On Top of the World.”

The talent show started at 7pm this past Saturday, but the rehearsals started hours before, around 2pm. All the performance groups were grabbing their opportunities to have one final rehearsal on stage, to give final touches and perfect their performance. The Cooper Union Talent Show, which consisted of 16 performances in 3 hours, provided a platform for students, as individuals or as clubs, to showcase their talents. The MCs of the evening, Sam Zhang (EE’16) and Gavin Kaplan (EE’16), engaged the audience with their improvisation and humor. A variety of performances, including instrumental music, vocals and dances were displayed that night. “It just got to show that Cooper Union Student Performance are some of the best performers in the world,” said Arnold Wey (EE’15). Wey, who performed in both Coopernova and a breakdance showcase, said “Peter Morfe’s (EE’14) vocal solo made my legs numb.”

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Before entering into a staring contest with Isabelle Page (Art ’15), you must first come to terms with the fact that she has long ago forgotten how to blink.

You have ten minutes. Which ten minutes? Let us say, for the argument’s sake, that they are the minutes between 5:30 and 5:40 on a Thursday night. What would Putin be doing during those minutes? What is lost? How did these engineers get into the Foundation Building? That’s right. During these particular minutes, you are staring into Isabelle’s unblinking eyes.

Photo Credit: Winter Lee (CBE ’15)

Let’s take a step back. Why all the staring? You listen closely to the sound of a distant phonograph. All of your troubles are washing away. Over the sound of the record, you can make out Isabelle’s voice: “It’s important to look at each other... [her voice is drowned out by static for a few seconds]...I wanted to create a format where people can start to get to know each other.” This is why she started the staring contest club.

The needle skips to the next track, and a new voice is barely audible over the static—is it Wozniak? “A lot of clubs are isolated to their particular schools [radio static] this club is something that brings the clubs closer together.” The sound of the phonograph dies down, and you see an engineer staring at an artist. An architect is staring at both of them. Isabelle is staring at Anton. Still. According to your phone, it is only 5:30. All is at peace in the world.

The concept of cryptography as conceived, captured the interest of Young and Yang at a time when computer viruses were merely a myth. Experienced in electrical engineering and computer science, Young realized that the two fields he studied could merge through hacking. By 1995, he had subconsciously formulated a number of scientific problems that hackers themselves faced when infiltrating computer systems.

He described two attacks in particular—cryptography revelation, or ransomware in modern terms, and the De-Niable Password Snatching Attack, which prevents network defenders seeking to thwart attacks from incriminating the attacker when the attacks occur.

In the former attack method, a virus, worm or Trojan hybrid encrypts the victim’s files. The victim must then pay the attacker in order to obtain the session key. This session key is encrypted under the malware creator’s public key within the malware.

The latter method is an attack that can be mounted by a cryptoteacher that allows the attacker to garner information from the victim’s system in a way that, even if the attacker is under surveillance on the local machine at the time of attack and when obtaining the information, he cannot be incriminated due to plausible deniability. This algorithm is derived through a combination of public key cryptography, probabilistic encryption, and the use of public information channels, together forming a secure receiver-anonymous channel. This gives the attacker sole authority to decode and control while the victim cannot have access. Young also discussed the use of hybrid encryption, combining symmetric and asymmetric as well as public and private keys, to increase the effectiveness of these attacks.

To read more about his work, visit www.cryptovirology.com.

SUMMER EXPERIENCES: YUTA MAKITA (ChE ’15)

The Pioneer interviewed current students from the art, architecture, and engineering schools about their summer experiences. The interviews will be published as a series. We hope they will serve to highlight the diverse achievements of our student body.

Here is our interview with Yuta Makita (ChE ’15).

The Pioneer: Where did you work?

Yuta Makita: For this past summer, I worked at Infineum USA in Linden, New Jersey.

TCP: What was your daily routine?

YM: There was no ‘set’ daily routine for me; the day to day work differed significantly depending on availability of laboratory equipment and what my supervisor wanted. Most days I worked in the lab for a good portion of the morning and then transferred the data on to my computer in the afternoon. Some days though, I would be doing lab work all day and some days I would be doing desk work for the whole day.

TCP: What was the biggest takeaway from your internship?

YM: The biggest takeaway from my experience was learning about the petrochemical additive industry as well as being aware of how research projects are conducted on the industrial scale. From my position and my team, I was able to learn about how processes developed in the technology department are scaled up to a plant size production as well as how my team sells their research to the plant.

MENSCHEL EXHIBIT

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SNOW DAY!

DO YOU WANNA HAVE A SNOW DAY?

AND SCHOOL’S SO FAR AWAY!

I REALLY CAN’T GET OUT MY DOOR!

I SWEAR I’LL COME TOMORROW.

SIT IN YOUR CLASSROOMS.

IT’S SNOWING MORE.

JACK POTTER (ME’16)

JACK POTTER (ME’16)

FROM: <campus-notices@cooper.edu>
Delayed Opening Tomorrow

Due to predicted snow conditions, The Cooper Union will begin classes at 9:15 a.m. Please use your best judgment, based on your own circumstances, in deciding whether you can travel safely to campus.

Hugs and Kisses,
VP Bill Moa

Photo Credit: Winter Leng (ChE ’18)
HACKS

JOSCO COLLEN

Though Cooper staff was on holiday from this past Thursday to Monday, the NAB opened to host the Cooper Union’s second annual hackathon. HackCooper, a Major League Hacking (MLH) sanctioned event, brought together corporate sponsors that donated hardware and software packages to the more than 150 student participants. The students, who ranged from high school to graduate students, had 24 hours to create their “hack” and present it to a panel of judges for a chance to win prizes.

MLH strives to “spread the hacker ethos to every student on the planet; to cultivate communities where aspiring hackers have the opportunity to learn, build, and share their creations with the world.” As such, hackathons are hosted around the country, enticing students to take a project from concept to final product with free food, energy drinks, and “swag.”

HackCooper was sponsored by IBM®, youdle®, Dow Jones, The Hackcratzi, Linke- dIn, Rhine API, littleBits™, Make School, Burrak Kam- ber, Hack Manhattan, Thal- mic Labs™, Device Factory, MakerBot®, and MLH. “Hackers” could rent out hardware ranging from an Oculus Rift, Arduino, and Raspberry Pi to a menagerie of littleBits™ modules as well as use software packages and services from IBM and Rhine API. All devices had to be returned after the win-

ners were announced.

All “hacking” had to stop by noon on Sunday for projects to be considered for prizes. Each team presented their “hack” in the Rose Auditorium to a panel of judges and semi- lucid students. A group of sophomores in high school won first place with their “Hopulus Rift,” a frogger game built from the ground up that placed a hopping player in the titular frog’s place by incorporating an Oculus Rift and Xbox Kinekt. Second prize went to “Tunetap | Touring,” a website that promised to make mobile hack (Myout). Prizes were also awarded for best mobile hack (Myout), award for best use of their hardware (littlePinball); award for best use of their software and software packages (String, 2String), and extraor-

dinary design (littlePinball). Corporations, too, handed out awards. IBM® gave an award for best use of their Bluemix platform (readme-2String), and extraor-
dinary design (littlePinball). Make School gave an award for best mobile hack (Myout). A full list of “hacks” may be found at https://www.hack- cooperator.org/hackathons/

HOW SHAKESPEARE WORKS

PRAVIN TONJEA

Prof. Germano, Dean of the Faculty of Humanities and Social Sciences, has embarked on a new project: delivering a series of free lectures on the works of Shakespeare. “These talks are designed as an intro-
duction – or re-introduction to Shakespeare the poet-playwright-player and to the world of his plays.” Over the course of nine one-hour lectures, Dean Germano will deconstruct the themes, char-
acters and context of Shakespeare’s less known works.

In an interview with The Pioneer, Dean Germano empha-

sized the relevance of Shakespearean literature to students of The Cooper Union, noting that “they (students) were first intro-
duced to Shakespeare in early high school. Now that they are older, they can begin to appreciate the full extent to which Shakespeare ad-
dresses themes for more ma-
ture audiences.” Outside his most famous plays, like Rino-

nas and Juliet, and A Midsum-
mer Night’s Dream, he explores mature themes like power, revenge, gender, and sex. It is for this reason that Dean Germano selected plays like Titus Andronicus and The Tem-
or’s Tale for further analysis in his lecture series.

Delivered in The Great Hall every Monday evening at 6 o’clock, Dean Germano’s lectures don’t require a long time commitment and are both enlightening and entertain-
ing. In fact, a portion of his first lecture was entirely in iambic pentameter!

For more information: http://bit.ly/HowShake-

erWorks

SUMMER EXPERIENCES:

NATALIA MALIGA (Art ’15)

CHAIR JONES (ART ’15)

The Cooper Pioneer interviewed current student, fresh out of art, architecture, and engineering schools about their summer experiences. The interviews will be published as a series. We hope they will one to highlight the diverse achieve-
ments of our student body.

Here is our interview with Natalia Maliga (Art ’15):

The Cooper Pioneer: Where are you from? Natalia Maliga: I went to Ghana with Professor Toby. Cameroon and five other stu-
dents.

TCP: What was your daily rou-
tine? NM: We didn’t particularly have a daily routine, just worked every day on Socialite and RAMENS-
DS, depending which project had more priority that particular day—whether we were talking to people in Ghana or heading up to Bukina Faso to the refu-
gee camp.

TCP: What was the best part about your internship? NM: The best part was getting to know the people who lived in Kuman and Jofop, Ghana, where we spent most of our stay with Toby.

TCP: How was it different from your day to day? NM: I’ve never been to Africa before, and I’ve never really had the opportunity until this sum-
mer to work on projects with the engineers.

TCP: What do you feel was the biggest takeaway from the expe-
rience? NM: That a new door has been opened for me—until now I hadn’t truly realized how much I really want to go travel to places in the world that no one would expect me to go to.

Photo Credit: Bashir Paik (CAM ’15)

The Cooper Pioneer: What do you feel was the best part about your internship? Natalia Maliga: The best part was getting to know the people who lived in Kuman and Jofop, Ghana, where we spent most of our stay with Toby.

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