

Editor-in-Chief
Saimon Sharif (ChE '15)
Asst. Editor-in-Chief
Chae Jeong (ChE '16)
Assoc. Editors
Joseph T. Colonel (EE '15)
Caroline Yu (EE '15)

Illustrators
Jake Potter (ME '16)
Laura Quan (CE '15)

The Pioneer

Writers
Yara Elborolosy (MCE '16)
Allison Tau (ChE '15)
Evan Burgess (Arch '15)
Anamika Singh (Art '17)
Kevin Sheng (EE '18)
Anushree Sreedhar (ChE '18)
Ruchi Patel (ChE '18)
Brenda So (CE '18)
Pranav Joneja (ME '18)
Monica Chen (CE '18)
Andy Jeong (EE '18)
Photographers
Jenna Lee (ME '15)
Vincent Wai Him Hui (Arch '15)
Howie Chen (EE '16)
Christine Huh (Arch '18)
Winter Leng (ChE '18)

DECEMBER 8, 2014
Volume 94, Issue #6
pioneer.cooper.edu
pioneer@cooper.edu

OPEN FORUM EXPLAINS COMPUTER SCIENCE MAJOR

PRANAV JONEJA (ME '18)



Photo Credit: Winter Leng (ChE '18)

Dr. Teresa Dahlberg, Dean of the School of Engineering and Chief Academic Officer, invited members of the Cooper Union community to an open forum regarding the introduction of the new computer science major. The forum was held on December 1 and was attended by students from all three schools. Dean Dahlberg brought with her three other faculty members who were instrumental in crafting the curriculum for the new major. These individuals include: Dr. Eric Lima, Associate Professor of Mechanical Engineering; Dr. Anita Raja, a recently hired Professor of Computer Science and the Associate Dean of Research and Graduate Programs; and Dr. Bonnie John, a Cooper alumnus (ME '77) and our newest faculty member.

The forum began with directly addressing the question of various new programs being introduced at The Cooper Union. Given the current state of our finances, Dean Dahlberg said, "I want to start by answering the question that you should probably be asking: 'Why is Cooper Union starting new programs?'" The Dean cited the average annual operating budget deficit of \$12 million as a problem that could be fixed by her proposed new program. The crux of her answer was that new programs are part of the financial sustainability plan to bring in much needed revenue to the school. This is achieved in two ways: by charging tuition to currently enrolled students in existing programs and charging tuition to new students enrolled in programs launched

in the future.

...*New programs are part of the financial sustainability plan to bring in much needed revenue to the school.*

Next, there was a brief overview of the computer science major followed by a lengthy, in-depth review of how the new curriculum was developed. Dean Dahlberg explained, "My style is to start with a relatively small focus group and create a straw-man" – a draft proposal of the curriculum that was then iteratively improved and updated. This focus group included people from various related disciplines and academic backgrounds, such as experts working in the software industry, faculty members, former students and education profession-

als. This mélange of people came together in the hope of creating a program that addresses the diversity and variety in thought demanded of computer scientists. Furthermore, their work in creating the curriculum was guided by the Joint Task Force on Computing Curricula of the Association of Computing Machinery (ACM), a guideline published by the preeminent computer science professional society.

Dean Dahlberg explained further that, once the draft curriculum is proposed to the larger community, there are talking points on paper and "it becomes easier to say 'I don't like that' or 'I do like that' or 'Change this'". This is easier than "starting

(*continued on back)

FACULTY-STUDENT SENATE MEETING ON TITLE IX

CAROLINE YU (EE '15)

On December 2, 2014, the Cooper Union Faculty-Student Senate held a meeting to discuss Title IX and Cooper Union's current policy on misconduct based upon sex. The policy can be found here: <http://www.cooper.edu/about/policies/sexual-misconduct>. The meeting was held in response to a resolution passed at the Faculty-Student Senate Meeting in September.

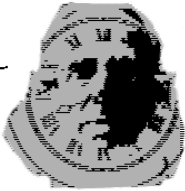
Marjory Fisher, the Managing Director at T&M Protection Resources, gave a historical context on the Title IX Policy. Title IX of the Education Amendments of 1972 governs the use of federal funds for educational programs, especially athletics, to make sure that no one is excluded from participating on the basis of gender. Now, the U.S. Department of Education Office of Civil Rights (DOE OCR) interprets Title IX as a school's responsibility to take immediate and appropriate steps to investigate alerts of possible sexual violence. Investigations must be prompt, thorough, fair, impartial, and equitable; they must also be done by individuals trained in the dynamics of sexual assault and have credible witnesses. The school must then end the sexual violence, eliminate the hostile environment, and prevent its recurrence. Fisher showed a public service announcement and referenced several websites dedicated to stop sexual assault. She also emphasized that federal grant

money can be pulled if a college does not follow the federal policies associated with Title IX. In order to increase transparency to the DOE OCR's work and to increase public awareness, the DOE OCR released a list of higher education institutions with open Title IX investigations earlier this year.

Next, Cooper Union's Policy on Misconduct Based Upon Sex was presented by Bill Mea (VP for Finance and Administration and Title IX coordinator), Ann Marie Gong (HR Manager), and Chris Chamberlin (Dean of Students). The policy is currently being revised and will become effective July of 2015. The process after reviewing a misconduct complaint is as follows: taking interim measures to protect the individuals involved, mediating a resolution between the two parties with the accuser's permission, conducting a formal investigation, determining whether it is more likely than not that a policy violation occurred, holding an appeal period, and, finally, imposing sanctions if necessary.

Misconduct reports can be sent to titleix@cooper.edu. Any member of the Cooper community can also contact Nicole Struensee, LCSW (646-734-6440). Bill Mea emphasized that, while Struensee is not obligated to inform him or Gong about any misconduct events, Cooper employees – even resident assistants – are. ♦

Peter Cooper
IN THE FUTURE



EPISODE TWENTY ONE

(GOOD LUCK, EVERYONE!)



(*continued from front)

with a blank sheet of paper and actually try to articulate [from scratch] what they want”.The Dean went on to explain that the computer science major was voted on and rejected by the engineering curriculum committee last year. Following that, she said the computer science major is going to be temporarily housed in the physics department, with the ultimate goal of launching an independent, fourth institute of The Cooper Union with approval of the Board of Trustees.

While she conceded that starting new programs is expensive, she argued that

the “incremental costs of starting a new program are much smaller than the new revenues”. In other words, the operating budget deficit will increase in the short-term as the school gears up to launch the new program. Dean Dahlberg admitted that these capital-intensive costs might include renovating space, especially in the Foundation Building, and even renting new space elsewhere. In the long-term, however, the hope is to recuperate these expenses and work toward resolving the operating budget deficit. Given the tumultuous climate at Cooper, clearly these are controversial claims.

The Dean maintains that she

is cognizant of community concerns, but that sometimes they frustrate her. She said, “One key barrier is that faculty and students, understandably, are opposed to any new program that significantly increases the student enrollment. That’s exactly what I saw in the questions [submitted by students beforehand]: ‘We just started charging tuition, we have a fiscal operating deficit, what are you doing adding more students!!’ I think that’s a huge misunderstanding in the community.”

She reiterated that this is just the beginning of a longer conversation with the whole community and that further matters of concerns can and should be addressed in the future. ♦

ART SENIOR SHOWS

EVAN BURGESS (ARCH ‘15)

What is the first thing you do when the clock strikes six on a Tuesday? Scavenge the building for cookies, of course. Tuesday night is the time for art shows (and refreshments), and now that the end of the semester is solidly in sight, graduating seniors are putting on their Senior Shows. The Senior Show is the culmination of an art student’s four years of school, and it gives the artist a chance to explore a specific topic or medium in depth.

This Tuesday, December 2nd, I began my trek on the seventh floor of the Foundation Building, at Davon Howard’s (Art ‘15) show, “if we were the middlegrounds of each other”. The flier made note that this show contains sexually explicit material, and what I found was a wonderful example of what a show can achieve when it addresses sexuality head-on. On the walls were a series of lithographs and screenprints either mounted or printed directly on steel plates. They contained overlaid images from vintage gay pornography, presented in such a way that the primary focus is on intimacy and masculinity. When I spoke to Davon, he described the “middle-grounds” of the project as an

effort to build a connection between the viewer and the artwork, making a space in which a person is comfortable with approaching and engaging with the pieces.

I watched the crowd flood into the seventh floor, one elevator-full at a time, and the lobby became a space of celebration and community. There was the same sense of a collective experience as I made my way down through each floor of the building. One show was serving sandwiches, one advertised a live performance, and one used the space of the Colonnade to display outward to the general public. Tuesdays are when everything is on display, and everyone is talking.

But sometimes I find it easier to focus on the work when there are not so many people around. I went back to the fifth floor show on Thursday night, long after the commotion had died down, to watch some of the short films that were on display there. These films mostly showed short clips from daily life, with a few old home movies mixed in. When I asked the artist, Amanda Machnik (Art ‘15), about her work, she said that she had

been working mostly in sculpture in previous years, and that her video work grew out of the time that she recently spent visiting family in Poland. Many of her videos, and the one sculpture on display, addressed the making of the traditional Polish sandwich. Every part of the show had a strongly honest and candid nature, and Amanda walked me through how each part of her work is an attempt to figure out her relation to her family, her Polish heritage, language-learning, or her own method of script-writing.

We can expect many more senior shows throughout the rest of the year. In a conversation, Peter North (Art ‘15), whose self-portraits looked out from the Colonnade to the city, shared how these shows give the artist the opportunity to think about where their work is displayed, and how it will be viewed by a wide audience. He talked about taking the time to figure out the energy of the space, and how it will interact with the work. I expect to see many more solutions to this problem as the weeks go on and the graduating seniors present their shows. ♦

THE DYNAMICS OF GLASS CEILINGS

BRENDA SO (CE ‘18)

A classroom filled with 20 boys and only 2 girls is a common scene at Cooper. Employment in engineering, when compared to that of other industries, has one of the worst gender ratios. Women face a variety of factors that deter them from advancing in a STEM career, one of which is the “glass ceiling” -- the unseen, yet unbreachable barrier that keeps the underrepresented from rising to the upper rungs of the corporate ladder regardless of their merit. In regards to this issue, the Society of Women Engineers (SWE) invited Professor Anita Raja, the Associate Dean of Research and Graduate program, to talk about the glass ceiling.

The talk started with introducing the controversy of the glass ceiling. While we see more and more women, such as Virginia Rometty of IBM, occupying top-level positions in companies, the percentage of women occupying high-standing positions still remains below 5%. This stunningly low percentage reminds us how women still remain underrepresented despite all the support given. A range of factors, including gender biases against women, the lack of mentors, the difference in leading style between men and women, and commitment to family responsibilities has led women in the STEM industries to leave their careers.

Professor Raja also referred to her own experience throughout the discussion. When she started her career in the academia, she was the only female in her department. Now, the department she used to work with has a female chair and 5 other females in the board – an indication of the waning of the glass ceiling. Yet, one thing to bear in mind is that the presence of women in top positions does not indicate that the path to it is any easier than before. There are still a lot of difficulties faced by women in the workplace and it is up to us, the next generation, to make a difference. ♦

COOPER MILE RUN

PRANAV JONEJA (ME ‘18)



Photo Credit: Winter Leng (ChE ‘18)

On November 18th, the Cross Country club held its annual Cooper Mile run, with the goal of infusing some much needed physical activity and fun ahead of final exams. The event is part of a long tradition held every year for the last four decades. Last year, runners followed a path around the Foun-

dation building and the park at Cooper Square.

This year, with the Cooper Square park under construction, runners tested their agility by dodging pedestrians as they ran almost 7 laps around the Foundation building. The winners are listed below.

Men

Scott Kulm (ChE ‘17)
Steven Leone (EE ‘16)
Anton Luz (CE ‘18)
Gabe Frasier (CE ‘18)

Women

Allison Tau (ChE ‘15)
Josie Lomboy (ChE ‘18)

LINKNYC PROJECT TO PROVIDE FREE PUBLIC WI-FI TO NYC

RUCHI PATEL (ChE ‘18)

Recently, the city of New York announced a revolutionary communications network to replace the city’s increasingly obsolete pay-phone system. The plan is to replace the 500 thousand public pay phones with up to 10 thousand public Wi-Fi kiosks across all five boroughs, offering the fastest and largest free public Wi-Fi system in the world.

The kiosks are called Links, and will provide gigabit Wi-Fi, which is more than 20 times faster than the average home Internet speed in NYC. Every kiosk aims to have a connectivity range of about 150 feet, with a limit of 250 simultaneously connected devices. Each Link should provide 24/7 Wi-Fi, phone calls anywhere in the U.S., a charging station, and a touch screen interface with city information and directions, as well as advertising and public service announcements, for free.

Is it really free if taxpayers will be paying more? Well, they won’t be. The city hopes to fund the project through donations and make up for a probable deficit with revenue generated by lucrative advertisements. This is how free mail servers, social networks, and sharing websites are able to stay free for their users as long as the users are willing to endure the advertisements.

Launching the project itself is estimated to cost over \$200 million, although it is estimated to generate over \$500 million in revenue for the city over the first 12 years, as well as create about 125 new full-time jobs and 650 support jobs, as reported by Forbes.com.

A similar network was launched by social entrepreneur and Cooper graduate, Paul Garrin (Art ‘82), after communication networks

failed during Hurricane Sandy. In 2003, he created the wireless broadband network, Wi-Fi-NY, which also offered free public kiosks with similar features as Links. In 2010, Garrin proposed his idea to the Two Bridges Neighborhood Council, which now funds the Cooper Lumen Design Challenge, a project supported by community leaders and mentored by Garrin himself to challenge Cooper Union students to design viable kiosk options with special attention to resilience, cost, and efficiency.

Last semester, the project was the focus of Professor Toby Cumberbatch’s Sustainable Design course. The Cooper Lumen Design Challenge still aims to collect \$10 thousand in order provide materials for art, architecture, and engineering students to design advanced prototypes for public Wi-Fi kiosks that can benefit the community. ♦