Letter from Fred L. Fontaine, Professor & Chair of Electrical Engineering

Without the Cooper integrated master's programs, the undergraduate education here cannot be considered comparable to what you would have gotten if you attended the other top tier programs you ALL were qualified to attend.

Charging tuition in either for those actually in the master program, or a variation of this such as tuition for courses taken beyond 135 credits - means significantly fewer students will either enter the master's program or take courses beyond those minimally required. Participation in advanced courses and projects will fall below critical mass, and these features of the UNDERGRADUATE engineering education will fade away. This will also stunt improvement of undergraduate labs. I will not be a voluntary participant in this, nor am I interested in watching a slow death spiral.

As such:
1) Supervising master theses is voluntary on the part of faculty. In fact, we are compensated for thesis supervision. I will not supervise master theses for Cooper undergrads that are charged tuition in the master program.
2) Every master thesis must be at least co-advised by a full-time faculty in the person's department. If this rule is bent, to bypass #1 above, then I will not vote to graduate any graduate whose thesis is not co-supervised.
3) If tuition is charged beyond 135 credits, I will no longer teach elective courses. Students can fulfill their elective requirements by taking required courses from other engineering majors.
4) As it is, engineering faculty are excluded from the admissions process. Since I can no longer in good conscience tell prospective top 1% students that the education they would get here would be comparable to what they would receive at other institutions they are considering, I will no longer participate in open houses. If my employer obliviates my presence, then I will be present but will only say "please refer to the catalog" - as a matter of academic freedom I cannot be forced to say or do anything else.
5) I will encourage all other faculty to join me in this. Non-tenured people can do scholarly activities like write articles and go to conferences, participate in committees etc., in lieu of teaching electives and/or supervising theses.

Sincerely,
Christopher Hong (EE '13)

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The Walkout

By Marcus Michelen (CE ’14)

For those of you who live in a total bubble, students gathered outside of the Foundation Building starting at around 9am on April 25th. At first, it was much like the walkout of last semester, very peaceful and fairly quiet. An alumnus, Jesse Kreuzer, was perched atop Peter Cooper’s Statue, armed only with a backpack (presumably of food) and a sign, reading “Free tuition/It’s our mission.” By four, a large crowd of members of the Cooper community had gathered. At that time, the crowd marched to Union Square to join with the Occupy Wall Street gathering that was going on at the same time. A little after five, the protesting members of the Cooper community, along with some protesters from OWS, marched back to the Foundation Building. At this point, a handful of police officers were surrounding our school.

At some point, Kreuzer climbed back to the top of the statue and was leading protest chants, consisting mainly of “Hey hey, ho ho/student debt has got to go.” Police backup came and the police decided to clear the protest area. Immediately after they made the announcement to clear the area, a Cooper Student, Sara Abruna, was arrested for reasons unknown at the time. The crowd was angry, but remained incredibly peaceful as they had been for the duration of the protest. More members of the NYPD slowly came to the scene. I say NYPD members because it included a hostage negotiation team, a cherry picker and more than five Emergency Service Vehicles. An empty city bus was used at one point to close off the area from 3rd Avenue. More than fifteen cops on mopeds glided in. After ten minutes of New York’s Finest figuring out how to operate a cherry picker, the police anticlimactically brought Kreuzer down peacefully. Shortly afterward, I counted more than 80 (not a typo) NYPD members on the scene.

While much was unknown at the time, a few details have been filled in. After briefly interviewing a few more than ten police officers on the scene (and being turned down by more than half of them), I learn that the police first came to our school because they followed the crowd from Occupy Wall Street.

New York Daily News tells us that Jesse Kreuzer was arrested for charges of “reckless endangerment, criminal trespass, and obstructing government administration” [1]. The same source informs us that Sara Abruna was arrested for “proking to duck under a taped-off area.” She was charged with “interfering with emergency services and obstructing government administration.”


And what the expense reduction committee decided was that everyone would have it didn't include financial aid and some little things so it's not the regular financial think it's just one little thing is wrong and to think that it's not worth it, I can say to little spreadsheet. Granted it's excel, but advanced excel – macros built in, etc. So to model that does X, Y, and Z, and I'd have it modeled tomorrow, a real model. Not a never do it this quickly, ever. I can meet with them this afternoon and say I need a built all the financial models that we're using, they provide benchmarking across the TCW: Absolutely. Remember, they're doing a very broad range of things. An by the by, I would think that most new presidents would probably do something similar.

TCW: They're not going to "conclude" anything. They're going to provide some in by the way, the expense reduction said it should have been I'm going to budget should have been $1 million and the by now. We have to do these things, but we have to do it.

TCW: I'd rather treat the Expense Reduction as a work in progress to provide information. But the people are the people who are on this committee and they have the information. They're in charging, except refusing access to the public. One of the people being called to testify, that, on the other hand, I'm not sure it's particularly productive. I understand the TCW: I can't really need the final 990 because I know if it has anything, changes, but the 990 is the number that I said. My goal is to get the final 990 in by the end of May. Once that number is in, the board can meet in May 15, but I do need the final to get our tax auditors to get this back.

Peter Buckley, a professor in the School of Humanities, spoke to the question, "Is merit the question, "How do you reclaim your education?"

David Gersten, an alumnus of the School of Architecture in 1991 and a professor in the School of Humanities and Social Sciences faculty where we were invited to talk about our opportunity to ask questions to other panelists. Sarah Crowe asked a question to after a brief talk from each of the panelists, the panelists were given the panelists were given the opportunity to ask questions to other panelists. Sarah Crowe asked a question to the final feedback from our tax auditors. TCW: There's always speculation. of the summit was a question, "What comes first?" The discussion that opened the 990s and they do at every 25 years and it has become more of a business. Longyard wrote, "A national crisis that, on the other hand, I'm not sure it's particularly productive. I understand the

TCW: The final report is going to be released on in the following budget cuts numbers to be released?

TCW: I'll list rather the Expense Reduction as a work in progress to provide some in by the way, the expense reduction said it should have been I'm going to 1. What was the cash budget for last year? 2. What was the austerity budget going to be? 3. What was the investment performance? 4. What were the investment guidelines? 5. Publish the policies of the procedures manual for public governance: There were several confused amidst. And at the end of the night, Rob Malan, The other day, the thing about Star that is already about a year behind. The audit committee is going to have agreed to post it on our website.

Christopher Hong (EE '13)

As many of you know, President Jambulnesh Bharucha went out a campus notice on Tuesday notifying the community of the final plan for the Cooper Union. For the day after, there was a protest fighting tuition in Cooper Union and national student day of action to support Cooper Union. A group dedicated to saving Cooper, held their second summit.

The summit started with an introduction by Henry Chapman who the question, "What do you notice?"

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By Christopher Hong (EE '13)

On Tuesday, April 24, 2012, we interviewed TCW regarding the administrative review of Cooper Union, the budget cuts across the entire school, and the 990 discussion. The discussion indicated that the budget cuts are focused on increasing contributions and I think we're going to see growth there. It's the same reason that works. We have to increase our budget, and we think we have growth there as well. We post our financial statements as well.

CP: Do you have anything else you want to add?

TCW: To get people to come together is a very valuable thing for Cooper Union and we're going to continue to do this, many more. Nobody seems to be in the midst of these things, but I think we're going to come even stronger and as a united group.
Results of Library Usage Survey

By Salmon Shafat (CHE ’15)

From March 22nd to April 20th, the Cooper Union Library conducted an online survey on library usage. A bulk email was sent out, so those that participated likely noticed the sign posted at the entrance and inside of the library. The survey was designed to give insight into library services that cannot be tracked; the general categories of the library’s users along with their needs and desire, and the utilization of personal services. The results of the survey are available here: http://library.cooper.edu/survey.html

Ninety-seven students took the survey. Out of that amount, 59% were Architecture students, 27% Art, and 3% Engineering. For reference, there are about 1,800 students at Cooper Union if graduate students are included into the count. The majority of students, 42%, stated they come less than once a week “while only 18% selected that they came more than once a week.” As expected, 90% of the surveyed used the library to “borrow books or other items” and 85% stated they read online. Interestingly, 77% stated they “used books or other materials inside the Library.” It should be noted that the use of materials without borrowing cannot normally be tracked. Amongly, 80% stated they looked at the free books and other items that the library gives away.

Julie Castelluzzo provided a selection of Lesser Known Facts deduced from the survey results. For example, 50% that were surveyed stated they read or studied. Interestingly, 77% stated they “use books or other materials inside the Library.” It should be noted that the use of materials without borrowing cannot normally be tracked. Amongly, 80% stated they looked at the free books and other items that the library gives away.

Projects Around Cooper

By Eric Leong (ME ’14)

Below are a couple of projects I worked on this semester:

- Sugar
A site I built with a friend from Columbia during the Spring 2012 hackNY hackathon, where students build products from start to finish in under 24 hours. Sugar is a group food recommendation site built during the Spring 2012 hackNY hackathon. The site allows users to recommend food items to others.

- HDR Video Camera
A research project with Gregory Taylor into building a camera that can capture high-definition, high dynamic range images for Professor Wek’s Photography class. Utilizing three webcams with three different exposures, recorded with custom software onto a blu-ray fast computer, three videos capturing different details are stored. Using Matlab, the three videos are processed to produce a single video via a process called exposure fusion.

The Cooperative Pioneer

May 2012

Revenue Task Force Update

By Salmon Shafat (CHE ’15)

The task force has had meetings with the consulting firm, CDG, in order to project the costs and revenues associated with specific ideas. These ideas include Cooper’s masters, summer, and other educational programs. The task force has also met with McGuire and still discuss the results of the McGuire’s survey on Cooper’s competitive standing in art, architecture, and engineering in their next meeting. McGuire also looked into any changes Cooper may need to make order to remain competitive.

Reflecting on the task force, Sharrag stated “The RTF has done a good job of discussing the issues facing Cooper from the top down, starting with broad ideas about Cooper’s history and the role of the full tuition scholarship today, down to the specifics of the various ideas that might help keep Cooper free. We will need to make radical changes to try to save the full tuition scholarship and Cooper as we know it.”

Saturday Program Annual Exhibition

By Yara Elborolosy (CE ’14)

The Saturday Program offers seven free art classes to over two hundred New York City High School students and runs from October to mid-April. The classes offered are Architecture, Drawing, Graphic Design, Painting, Portfolio Prep, Sculpture and Sound Composition. The classes, with the exception of Portfolio Prep, are open to students from grade 9 to 12. Portfolio Prep is open to high school seniors.

All materials are paid for and the classes are taught by current undergraduates enrolled in Cooper. At the end of each year, the Saturday program has its Annual Exhibition or End of the Year Show where student’s works from all seven classes are put on display. It is open to the public and friends and families of the students are invited to come support the students.

The End of the Year Show was held on the last day of classes, April 7th, and in the morning, the Portfolio Prep was outside the Foundation Building drawing on the sidewalk. Using chalk, the students recreated great paintings of wonderful artists to start off the end of the year celebration.

After a lunch break, the 3rd floor lobby of the Foundation Building was filled with over four hundred people appreciating the students’ work, including faculty and students of Cooper. Following the exhibition was a spoken word performance held in the Rose Auditorium. Each class is designated a writing instructor who meets with them once a week for an hour for the entire year.

For the end of the year show, students either performed an individual piece or put together their abilities to create a group performance. Each student was able to demonstrate their creative abilities and beliefs or ideas they held dear. The Saturday Program has helped these kids grow not only as artists but as nurturing adults who are ready to take what the world throwes at them.
The Cooper Pioneer Grow Down May 2012

Projects Around Cooper

By Joe Bayless (EE ’12), Ethan Blenkens (EE ’12), Samantha Massengail (EE ’12)

This is an abstract for our Electrical Engineering senior project, OCSIM- interference Sensing and Coexistence in the 2.4 GHz ISM band. One of our papers recently won first place in the IEEE Region 8 Student Paper Competition and was published in the April issue of High Frequency Electronics.

The presence of non-WiFi transmissions in the 2.4 GHz ISM, Scientific, and Medical (ISM) band causes performance degradation in WiFi systems by decreasing throughput and increasing bit error rate (BER). OCSIM seeks to alleviate the effects of various interferers by applying interference-specific mitigation schemes to WiFi systems. Because both the wideband and narrowband interferers exist, OCSIM’s approach to obviate sources of interference more efficiently by identifying them first. Bluetooth devices and microwave ovens were chosen to represent narrowband and wideband interferors, respectively. A notchfilter was created in MATLAB to simulate 802.11 g WiFi transmissions and the effects of interfering signals on throughputs. An algorithm for locating transmission peaks was developed for extracting information from interference signals. Several machine learning classification algorithms were tested for identification accuracy and computational cost, and Rateless-Rays was selected to serve as OCSIM’s method for classifying interferors. Rateless-Rays adaptation is shown in the mitigation scheme for Bluetooth interferors, and timed transmission was chosen to mitigate the effects of microwave ovens. Accurate identification has been demonstrated, and mitigation algorithms are expected to improve throughput in the presence of both interferors. A prototype timed transmission algorithm to mitigate microwave oven interference has been implemented on hardware on a software-defined radio platform, and real-time performance improvements have been demonstrated.

Engineering and Art students from Professor J.R. Muller’s playwright and theatre practice class performed a series of eleven captivating plays on Friday afternoon in the Rose Auditorium. Each play was written and performed by students with a wide range of genres ranging from romance and tragedy to farce and comedy. There were many spectacular performances from student actors all across the board. A crowd of students and professors were in attendence to observe the fruit of a semester’s labor from the hardworking students of the class. The audience was immerssed by the embalming action and drama, enraptured in the creativity and colorfulness of the plots, and bewitched by laughter towards the end of the performances.

Projects Around Cooper

By Peter Ronnenas Lin (CE ’13)

70 miles per hour. This is the answer to “how fast does it go?” which is the first question people ask when they see the Cooper Union Formula SAE car. The next question would be, “how fast does it accelerate?” because with decker tires and a high compression ratio, this answer is much more important than the top speed—which is mainly limited by the style of competition and gearing. The next thing to be concerned with is “how fast does it go if it is a car entirely designed and built by students that isn’t tested rigorously to manufacturer and federal standard?” The answer to this I assure you is “plenty fast.”

Formula SAE is a competition where students design and build a racing style car that competes in both dynamic events (such as acceleration and braking tests) and static events (design and business presentations). The power of the car is limited by a 2.0-liter diameter intake restrictor that forces all the engine air to come through a relatively small opening. Teams must build an entirely new design for every competition year.

The Cooper Union FSAE team designed a car to compete at FSAE Michigan which occurs May 9-12. Our car is based around a GSXR600 motorcycle engine and we use our own intake, exhaust, and engine electronics to overcome the restriction as much as possible. Everything besides the engine itself is designed and built by the team at some point. Currently the car is running and has done its first test day for competition. While we’ve identified problems with the intake leaking and the electronics aren’t properly capturing the battery, we should have these problems resolved before competition.

Working on the Formula SAE car is an all-year process, the shop is referred to as the “chop shop” while I have been known to refer to myself as the “chop master.” Any tool being used outside of intended use as blunt force weapon to be desired. Formula SAE is referred to as a “science tool” mainly because of some ironic reference to skills supposedly developed by students to be used in some other field of study. Ultimately a veteran team has no other way to communicate faith using sentences like “BIMM!” Can you handle the Richard Prydor? I need to have your input on my short metal fabrication skills!*

*When the current Cooper University alumni leaves for competition in Michigan on May 5th, it will represent three years of hard work by a very dedicated group of students. Tina “Captian Kate”, Hollie “Smash” Smith and Alex “Zigz” Zichertello designed and built most of the suspension, exhaust, and brakes before graduating last year. Current classes have not only participated in the remainder of the car’s life with help from younger active team members and older alumni, but more importantly, so many other students, faculty and staff members to name here. We are very grateful to all those who have helped in time, money and resources to help us complete this ambitious project. We especially want to thank many thanks to honorary team members Scott “Kev” Jarecki and Mike “Derek 2” Price who are always willing to lend a tool or turn a CNC job around in a week, and we are lucky to have Professor Dr. D. Delgarammazahak as our faculty advisor. This dedication the share these people in making a car from the ground up is the kind of attitude that makes me glad I came to Cooper University.

Interview with Dan Quang (EE ’12) by Yara Elhrousby (CE ’14)

Dan: My name is Daniel Quang, senior chemical engineer working with Professor David’s class. My group mates are Le Vinh Do and Douglas Mu. Our project is to design a hydrogen fuel plant. The project was assigned. The point of the project is to design hydrogen fuel plants that use methansteam reforming and a water gas shift reaction to produce hydrogen. It takes natural gas from Con Edison and purifies it in a heat exchanger, reacts the methane with water, and through the reactions it produces hydrogen. You then purify the hydrogen using such processes as pressure-swing absorption and you have to design compressors, pumps, and heat exchangers throughout the process. At the end, you have to cost everything to determine how economically feasible the project is. It is only a design, a hypothetical station. We are almost done with this. We just need to design a few more things and then we cost everything to determine the cash flow over a 20 year life span. The plant is going to be a hydrogen fueling station in NY. It is designed to fuel 200 cars a day with the assumption that each car needs 2 kg of hydrogen to fuel-up. We’ve been working on it for the past month and a half. The senior design project for chemical engineers is essentially several projects every few weeks. This is the last and biggest project. It is in the culmination of all the work we have acquired in the class.

Yara: Any last words?

Dan: As a suggestion for all future projects, the professor should not assign groups because itsphere the creativity and the effort that can be put into it. I understand why they’re trying to do it: they’re trying to put everyone to the same level so that students who are not so strong can work with students who are strong. That just leaves one with a bunch of mediocre projects. I feel it would be much better if we could have a few good group projects and a few really great projects. That is what the electricial engineers are doing and I feel that is more appropriate. That is my opinion.

Interview with Samantha Massengail (EE ’12), Madeline Foster (CE ’12), and Steven Nikolidakis (CE ’12) by Yara Elhrousby (CE ’14)

Christian: I am Christian Milone and I am a Senior Electrical Engineering and I am doing a senior design project called the Hawk’s Nest (because Cooper’s mascot is the hawk, and the sweet home is, of course, and Steven Nikolidakis, it is a multiple purpose studio project that is going to be located at 134 Water Street, here at Cooper. It is being funded through Cooper University and it is going to be located at 134 Water Street. It is a small project, but it is a small project that is going to be located here in the Cooper community. We’ve got this big kitchen and lounge in the old building. That because of my inspirations that helped us come up with the concept is not what students here wished they had. We were lucky enough to design a building for Cooper students than we needed. It is a cool room, right here in our neighborhood, and it is a Cooper Building. A lot of students from our building buildings that exist in museum, bridges but we saw the opportunity for the Cooper Community.

Yara: Do you have a specific professor for your group?

Christian: Yes, the way the senior design works for civil engineering is that all three professors work with all of the students. In other majors, each professor is assigned a group of labs to work with. In the civil department, each professor has a different specialty, one is an expert in soils and foundations, one is an expert in water and plumbing, and the last one is an expert structural engineer. It is kind of a cool thing to work with all three of them. Also, I used to talk to one professor every week.

Yara: How long have you been working on this project?

Christian: This is a year-long project and we started fall semester last year. During the day, we work on the design, planning, designing, checking of permits, and figuring out what goes into actually designing and building a building this semester is more of the technical stuff where we’re looking into the structures, what type of beams, size columns, the foundations, etc. We only have one thing left for this semester and then we are going to start actually designing the building. The project is all theoretical; we don’t actually make anything, unlike mechanical and electrical engineering. But it is cool because you are able to take everything you learned from all the classes you’ve taken and bring it all together. The first semester is all about learning and I think that there is so much that goes on behind the scenes. Some people have worked with project managers so they know some of the logistics that go into this. Before you can actually start designing, we came up with initial design and making them. We did a lot of work with modeling it on software but there is no actual building of it. It is kind of an interesting thing where I am really glad to have done it; it is really a cool project.
October
Professor Ahmad is back
Cooper Pioneer is back

November
24th Residence Hall Leak
2nd Walk-Work-Act Out
6th, Robin runs 26.2 miles
8th, Joint Student Assembly
9th, Joint Student Assembly 2
15th, 36th Annual Cooper Mile
29th, On the Table: An exhibition for Free Education (week long)

December
Cooper Union Makes a Contract with FJC

January
Hiring in Alumni Affairs
during Hiring Freeze
Revenue Task Update
January, James is Staying

February
4th-5th, Pinhole Photography
7th, ESC Open Meeting
13th – March 8th, Work Makes Work
21st, Friends of Cooper Union Pin Up

March
1st, Very Young Girls Screening
9th, Observing Translation
13th, Frankie gets Vending Machine
21st, Friends of Cooper Union Strategies (FOCUS)
54th, Team World Vision 5K
31st, Culture Show

April
1st, The Dining Table
20th, Library Survey (3/20-)
24th, President Bharucha announced that the Master’s program will charge tuition
25th, Student Protest
27th, Jill Miller’s playwright and theatre practicum class final plays

Faces of Cooper
Who’s who in Cooper. Find out.

Photos taken by Jenna Lee (ME ’15) and Christopher Hong (EE ’13)
Dean Baker’s photo obtained from the CU athletics site.
Orbach’s and Smyth’s photos were obtained from cooper.edu.
David Wootton: I grew up in an academic family in Ithaca, NY, with a couple of important years in Cambridge (England) and Palo Alto (California).

CP: Can you tell me about your educational and professional background?

DW: I送来 public high school and private music school, and an apprentice violinist, continuing the work while I sent to Cornell University. I majored in Mechanical Engineering and worked briefly as a transportation noise and vibration consultant at a small firm, before starting my MS program at MIT, where I developed a new way to calculate vibrational modes and tips and transients of linear systems. After completing my master's I was a crashworthiness and safety engineer at General Motors for about 3 years, working mostly on front structure design requirements for new model year cars, as well as examining damage to the body and vehicle components in collisions, and competing vehicle evaluation and tests. I did my PhD research in biofluid mechanics at Georgia Tech in Atlanta, concentrating on the effects of flow through the bronchial blood in a healthy adult and a patient with a chronic disease, but also doing some side projects, developing a novel gel biomaterials and investigating the conditions under which the narrow lumen can partially collapse on itself in an abnormal pattern, and a biomolecule in bioengineering research with a tiny bit of fluid mechanics, looking at the interplay between the Stokes and the Navier-Stokes equations.

CP: When did you first learn about Cooper?

DW: When I was a college student I heard about Cooper Union's reputation among the top small high-quality engineering schools in the US, and that it was in NYU. Harvey Mudd in the same sound pretty cool to me, but I had heard the "Pep-Clipper Union" (7 members) to among my host when I worked at the violin shop.

CP: What brought you to Cooper Union? When did you start working at Cooper?

DW: After four years at a research-driven institution where I was regularly asked if I could spend less time on research, I realized that I was only spending one day per week on research and I learned more, not less. I consider teaching the most important thing that I do, so I started looking for positions at more teaching-oriented schools where I hoped to continue my biomedical engineering research with a few bright students, and teach 3 or 4 classes a semester. When Cooper Union advertised a position in 2006 to be filled in 2008, my position was jumped, the chance to join the faculty and be with the unique students and small cell and tissue lab that was available thanks to his efforts. The lab meant that I could continue collaborations in tissue engineering manufacturing research, as well as my computational modeling of biofluid mechanics to create a more realistic and efficient tissue systems.

CP: What is your role in Cooper? What is your goal at Cooper?

DW: I have a traditional academic role: teach fundamental courses about the mechanics of fluid and solid, how you can analyze them to build models that explain and design relationship structures, or the differences between heat and leisure. I teach fundamentals and design courses in biomechanics and bioengineering, specifically about injury and safety design, transport in biological systems, and (in the past) in the area of tissue engineering.

CP: Do you have any recommendations for what Cooper students should be doing over the summer?

DW: Work on a project or an internship, or travel to see family and friends. A couple of important years in Cambridge and professional skills they need to practice in and beyond the very broad

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CP: Can you tell me about your educational and professional background?

DW: I送来 public high school and private music school, and an apprentice violinist, continuing the work while I sent to Cornell University. I majored in Mechanical Engineering and worked briefly as a transportation noise and vibration consultant at a small firm, before starting my MS program at MIT, where I developed a new way to calculate vibrational modes and tips and transients of linear systems. After completing my master's I was a crashworthiness and safety engineer at General Motors for about 3 years, working mostly on front structure design requirements for new model year cars, as well as examining damage to the body and vehicle components in collisions, and competing vehicle evaluation and tests. I did my PhD research in biofluid mechanics at Georgia Tech in Atlanta, concentrating on the effects of flow through the bronchial blood in a healthy adult and a patient with a chronic disease, but also doing some side projects, developing a novel gel biomaterials and investigating the conditions under which the narrow lumen can partially collapse on itself in an abnormal pattern, and a biomolecule in bioengineering research with a tiny bit of fluid mechanics, looking at the interplay between the Stokes and the Navier-Stokes equations.

CP: When did you first learn about Cooper?

DW: When I was a college student I heard about Cooper Union's reputation among the top small high-quality engineering schools in the US, and that it was in NYU. Harvey Mudd in the same sound pretty cool to me, but I had heard the "Pep-Clipper Union" (7 members) to among my host when I worked at the violin shop.

CP: What brought you to Cooper Union? When did you start working at Cooper?

DW: After four years at a research-driven institution where I was regularly asked if I could spend less time on research, I realized that I was only spending one day per week on research and I learned more, not less. I consider teaching the most important thing that I do, so I started looking for positions at more teaching-oriented schools where I hoped to continue my biomedical engineering research with a few bright students, and teach 3 or 4 classes a semester. When Cooper Union advertised a position in 2006 to be filled in 2008, my position was jumped, the chance to join the faculty and be with the unique students and small cell and tissue lab that was available thanks to his efforts. The lab meant that I could continue collaborations in tissue engineering manufacturing research, as well as my computational modeling of biofluid mechanics to create a more realistic and efficient tissue systems.

CP: What is your role in Cooper? What is your goal at Cooper?

DW: I have a traditional academic role: teach fundamental courses about the mechanics of fluid and solid, how you can analyze them to build models that explain and design relationship structures, or the differences between heat and leisure. I teach fundamentals and design courses in biomechanics and bioengineering, specifically about injury and safety design, transport in biological systems, and (in the past) in the area of tissue engineering.

CP: Do you have any recommendations for what Cooper students should be doing over the summer?

DW: Work on a project or an internship, or travel to see family and friends. A couple of important years in Cambridge and professional skills they need to practice in and beyond the very broad

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CP: Can you tell me about your educational and professional background?
DO: To evolve. To inspire. To teach a whole new generation of students. hike, and to antagonize the lead, and create the future. I imagine one day I will be standing on a glacier, making big eyeglasses, with multiplex capability. I will get a lot of fun learning about new things, and I will learn new and interesting ways. I enjoy reading books and learning about new things.

I design biology courses with labs, provincial courses and research seminars, and the secret of my success is the feedback of my pre-med students and how they find my courses challenging. I desire to help a student get into a great (medical) school.

I worked in industry for a summer developing an enzyme to catalyze transport across the cell walls of of PP. The enzyme was a protein composed of 258 amino acids. During my final year there, I got a chance to work on a surgical implant trial with the goal of reducing nerve injury. I returned to grad school and did work in polymer science at a company that makes medical devices.

I have an interest in teaching, helping to motivate and inspire students, and to get them excited about science. I am doing research on new ways to deliver drugs, and I am interested in finding ways to improve patient care.

I am also interested in teaching methods, and how to help students learn. I am interested in finding ways to make science more accessible and interesting to students.

I believe that we need to be creative and innovative in our teaching methods, and that we need to find ways to make science more interesting and accessible to students. I am interested in finding ways to make science more accessible and interesting to students.

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Cooper Pioneer: Where are you from originally?
Peter Buckley: I was born in Newfoundland, England, and went to school in Snowham, from is, from a better part of town.

CP: Can you tell me about your educational and professional background?
By the time Cooper opened, the term “union” had been largely associated with labor unions. So many people didn’t refer to it as “Cooper Union” because it was probably going to designation an institution devoted to hard-working. 

CP: What is your role at Cooper, aside from being a full time professor?
PB: Aside from being a professor? Well, my role is a couple of hats. I am the chairperson of the Planning and Assessment council and also the vice preside of the CPUC, the faculty union. In previous many, I was the chair of the Middlestates self study committee and also, for one year, acting dean of Humanities and Social Sciences before the incoming current arvated.

CP: What advice would you give to Cooper students?
PB: Don’t think that the so called ins-

CP: So what year was it that you came to America?
PB: I believe that the first time I came to America would have been 1975. Then I would have come back to graduate school here in 1975.

You mentioned you majored in American Studies at the University of Michigan. Do you have any fa-

CP: What do you think about Cooper’s financial situation?
PB: It is in some way compensated for by
difficult situation."

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CP: What would you like to discuss it?
PB: I would like to add that the students
deserve to be discussion with you. The

CP: What do you think of the work we did together, much of

PB: My studio work.

CP: What do you think of the financial situation, if you will?
PB: Yes, I am. Cooper’s financial situation is very trying and I am convinced we’re in a genuine crisis. But I am also con-

PB: I am pleased to see that the Pioneering is back because for close to a decade, it hardly came out. You’d have to see if you’re interested a year. I think that was a signal of some-thing changing.

PB: Yes, I think I’d like to say one more thing. To say that I think Cooper should be succeeded by an endowed institution, as the undergraduates aren’t even, don’t mean that I don’t think Cooper should change. In other words, we will have to change. We should change whether or not there is a financial crisis. There are all kinds of circular innovations that should take place anyway, and hope that which are finding ways for students to introduce most flexible scheduling of courses. I think that the place has become more devoted to a certain kind of work ethic. It’s not that students are working harder, they’re just working longer. It seems that there’s less and less time for every-thing I had really unusual: less time for faculty to meet each other, less time for students to engage in kind of necessary associations and volun-
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PB: I was at the time a Graduate Fellow, post-doc fellow at NYU and there was a man in the math department whose wife was a job available here. Did I know about Cooper Union? Not as a living institution but only as a historical object because I had done much of my gradu-ate work on 19th century New York. So I knew it existed but I probably thought of it as “The Cooper Institute” which it was largely called by that name through-out the 19th century even though, actually name hasn’t changed. Many people referred to it as “The Cooper Institute” because by the time Cooper opened, the term “union” had been largely associated with labor unions. So many people didn’t refer to it as “Cooper Union” because it was probably going to designation an institution devoted to hard-working. 

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DG: The first time I ever heard of The Cooper Union was from my dad when I was in High School. I took a two-year drafting program at the New Jersey Institute of Technology. I had never heard of Cooper Union until 1985, when I met Rodolfo at NYIT. Rodolfo was a freshman in the architecture program who was a very bright person. We got to talk about many things, and he asked me about the deep sense of humanity I had. I had some great opportunities in terms of everything that I thought was possible. From that conversation, we started to talk about the depth of the school: where the students are, the faculty, and the school that will navigate the school. Thank you.

Christopher Hong (EE ’13)

CP: When did you first learn about Cooper Union? Why did you start working at Cooper Union?

DG: Cooper is filled with wonderful faculty and students. The students come with a great generation of spirit. Across generations, there are people who are very interested in the world, who want to take on any of those or those kinds, in their life. As we continue to debate, it is all of our work and our works that will navigate the school.

CP: Why is your favorite professor at Cooper? Why?

DG: It is my favorite professor at Cooper. The professor was a real professional and a real scholar. It was my favorite. He set an example for me. He is a great friend of Cooper Union, and I think about you guys. He is a great friend of Cooper Union, and I think about you.
If I didn't like what I do, I wouldn't be here. I wouldn't be here if I didn't have that kind of interest. Sometimes, you have to think about yourself, so you have the opportunity to do something you like to do, to take it. Whether that's being a monk or volunteer your time or doing something with young or old people. So you want to do things that you have the time to do them and now is that time.

CP: Do you plan on any volunteer opportunities with your family? 

SB: I would like for my family to spend a lot of time in Cape Cod and because it's a problem, we will have to spend a lot of time evaluating the direc
tion we need to be going in. We have a family of four to get acquainted. SB: My family and I will spend a lot of
time with your family? What are your goals
and then all of a sudden, it starts all over
again. It's not as if you go to Hawaii
for a couple of days to get acquainted
with the people, you have a couple of days
of spending the last day of the summer, the second year, you're
saying 'I got to do this, I got to do this.' You're
from a level of intensity that is in your face all the
time in all of a sudden an educational
recreation. Then you got to do some. I always
amazed how you can go to the end of the
line to Bannister, college, get back
yourself or yourself before September. You're
not going to take that but I have seen it happen. It all have to be
done with this. The think I can realize
how we maintain it and you don't have a chance to do. It's more about
doing the things you like to do.

SB: I'm not going to do it. I don't have a couple of days of spending the last day of the summer, the second year, you're saying 'I got to do this, I got to do this.' You're from a level of intensity that is in your face all the
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