

ATCOOPER

FALL 2017

THE COOPER UNION FOR THE ADVANCEMENT OF SCIENCE AND ART





What a year it has been! As the world around us continues to turn in unexpected ways, we have worked hard at The Cooper Union to bring stability to the present and build a vision for our future. Twelve months ago, I began my new role as president of this remarkable institution. Since then, we've rolled up our collective sleeves and worked together to aspire; learn; innovate; make tough decisions; produce important work and programming in the classroom, the Great Hall, and beyond; graduate the Class of 2017; welcome new first-year students; give back; plan; evaluate; and learn more and define areas of strategic focus that will carry us into our future.

Alumni, faculty, staff, students, and trustees have engaged in strategic planning; contributed ideas to help define a responsible path to full-tuition scholarships for all undergraduate students; launched a Diversity Task Force to increase excellence, inclusion, and diversity of backgrounds and perspectives at The Cooper Union; and pushed new ideas forward within Cooper and beyond, winning industry and academic awards, launching new start-ups, and leading on so many fronts—making all of us proud.

We also reactivated the Great Hall, reaching new audiences and friends by showcasing our history and heritage as an iconic New York City destination for productive, thought-provoking discourse on critical issues of our time.

Of course, increased funding is critical to our future success, and here, too, our community has stepped up to show our strength and commitment. On the opposite page, you'll read about a landmark gift from a remarkable alumna, Irma Giustino Weiss. At this writing, we are more than 60% of the way to reaching Irma's generous matching gift challenge, which could represent as much as \$8 million in new funding. We hope you will join us in meeting Irma's extraordinary challenge to our beloved institution.

The pace around here has not been for the faint of heart. We've had ambitious goals and an aggressive agenda. To all of you who have contributed your time, ideas, and financial resources and encouraged others to do the same, I can't thank you enough. This kind of support is building the foundation we need to move forward in a collaborative and financially sustainable way.

There is a positive new momentum building at The Cooper Union. I am inspired by the spirit of this community. And I am grateful for the opportunity to be on this journey with you. Here's to an incredible 2018 together!

Laura Sparks, President

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*On the cover: Ai Weiwei, Five Fences, 2017 | steel, paint | Courtesy of Ai Weiwei Studio | Photo: Jason Wyche | Courtesy Public Art Fund, NY
 On view as part of the citywide exhibition Good Fences Make Good Neighbors, presented by Public Art Fund, October 12, 2017–February 11, 2018. See page 22.*



A FINAL GIFT

**THE BEQUEST FROM
IRMA GIUSTINO WEISS A'45
CHALLENGES OTHERS TO FOLLOW
HER GENEROSITY**

BY CHARLOTTE EGERTON

“My goal is to provide a gift that will facilitate changing a life.” So said Irma Giustino Weiss, a 1945 School of Art alumna, whose fondest hopes for current students are being realized at The Cooper Union today. Irma passed away on October 6, 2015, after leading an extraordinary life. During her lifetime, she contributed over \$1.6 million to her alma mater. Upon her death, she earmarked an additional \$4 million for Cooper Union in the form of a challenge grant to encourage new and increased gifts.

As a woman who led a philanthropic life, she wanted to inspire others to follow in her footsteps. The Irma Giustino Weiss '45 Challenge Fund will match all new and increased gifts in fiscal year 2018, up to \$4 million, providing a potential \$8 million in new funding for The Cooper Union. Irma's bequest will be directed toward an endowed fund for need-based scholarships. Each awardee will receive information about Irma, an exhortation to live up to her generous example of philanthropic support for future Cooper Union students, and will be identified as an “Irma Giustino Weiss Scholar.” As Irma wished, a gift of this size will change the lives of countless students.

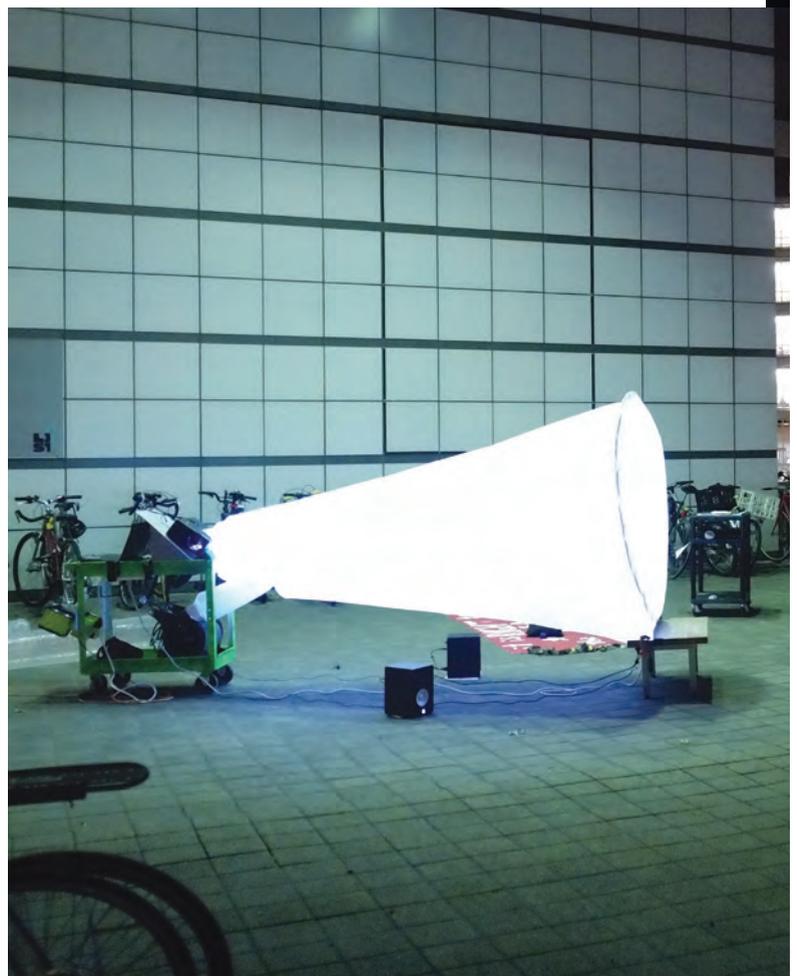
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Irma believed her life was transformed by the opportunity to attend The Cooper Union. She was born in humble circumstances on March 30, 1919, in New York City. A graduate of Washington Irving High School in Manhattan, Irma enrolled in the School of Art in 1941, determined to succeed. She recalled, “When I took the entrance exams in August 1941, the Great Hall was filled to capacity with hopeful aspirants. On graduation day in May 1945, I believe there were only 23 of us.”

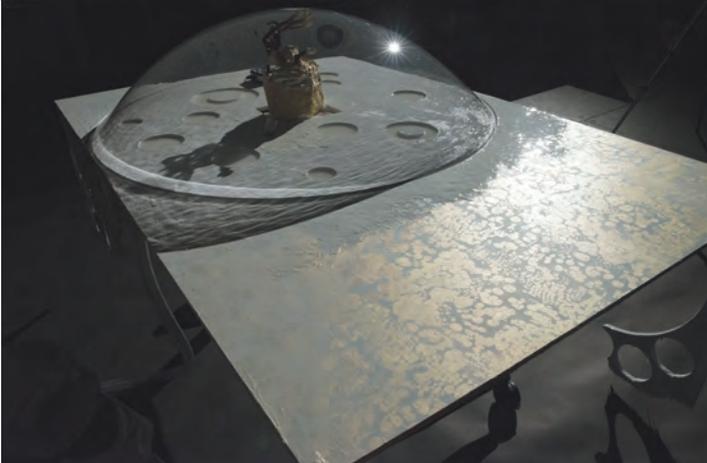
After graduating, she became the first woman employed in the art department of Triangle Publications, best known for *TV Guide* and *Seventeen*. She also served as the art director at Ziff Davis Publishing, where she earned two Art Directors’ Awards—one of only nine women of the 439 nominees the year she won. Her success demonstrated great strides for women in commercial arts. Irma finished her career as the creative director of *Brides* magazine at Condé Nast Publications.

She married Benjamin Weiss, a New York stock market investor, in 1969. Irma shared her love of the fine arts with her late husband, who was an avid collector of African and pre-Columbian art. The couple spent their lives traveling and absorbing cultural experiences near and far. Part of her appreciation for the arts stemmed from her experience attending Cooper Union during World War II, when this type of enrichment was not easily accessible.

As a result, she became a passionate supporter of arts organizations, including her alma mater. In 1998, she established the Irma Giustino Weiss Cultural Enrichment Fellowship Program. The program selected high-achieving, highly motivated students to embark on a focused exploration of cultural treasures, from well-known museums to galleries off the beaten path. It was her encouragement to find the hidden gems in New York City that made the fellowship unique.



Continues on page 4



RONALD MARTIN A'08 CULTURAL ENRICHMENT FELLOW 2008

Being a Weiss Fellow meant so much to me and was a formative experience on par with the education I received while at Cooper. I was ecstatic to receive the support of the program because it allowed me to attend events I simply could not afford otherwise. In fact, it encouraged me to discover and search for the hidden treasures New York's art world had to offer. During my four years at Cooper I went to several theatrical performances that I really enjoyed—some on Broadway, others off-off-Broadway. I remember discovering La MaMa Theatre, Cirque du Soleil, Dia:Beacon, and the Metropolitan Opera at Lincoln Center. I went to so many cultural events I could not even list them all.

Having access to all these New York venues and more made me feel exceptionally lucky, very rich, and part of something really big. More importantly, it gave me self-worth and encouraged me to reach further and further in my artistic career to become part of that cultural ecosystem. Also, at almost every event, I met and befriended incredible like-minded people and that was a truly welcome surprise. Ten years later, I keep the experience of being a fellow fondly in my heart.

After graduating from Cooper's School of Art I was very fortunate to start a career as an artist, based in San Francisco with exhibitions in Germany, Italy, and Los Angeles. In 2009, with my group Plantation, I was invited to show in the 53rd Venice Biennale International Art Exhibition. In 2015, I was accepted with a full-tuition scholarship into MIT's Art, Culture and Technology Program, graduating this past May.

Irma offered a gift that is hard to find in our digital era because it encouraged real connections with the communities that provide culture to New York. For her beneficiaries, her generosity translated into the gift of a very special key granting access to the full potential of life and cultural experience as a young art student.

Above left: This Is the Breath of Someone That Used to Be Here, an inflatable megaphone to help museum guards protest the labor conditions at the Museum of Fine Arts, Boston.

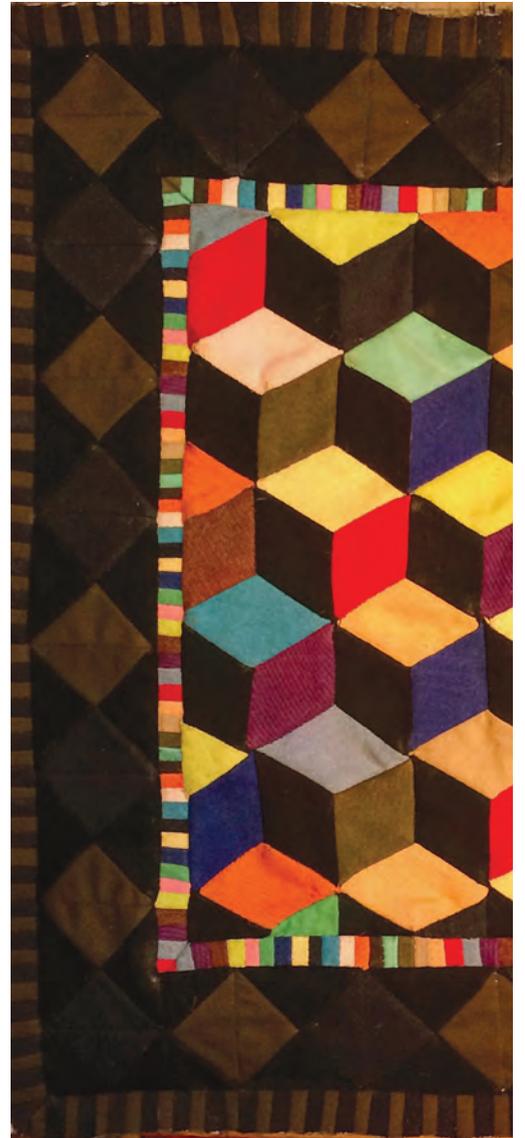
Left: Mask of the Opisthokonta, a voice-activated human breath sculpture that affects the shape of a mushroom.

Rolando Vega AR'12 recalls having lunch one afternoon with Irma and the other fellows:

Irma was curious as to how her gift had been affecting our lives and asked us what we had used her money for. We all took turns sharing stories; most of us had gone to see opera or plays. A few bought design books. Irma sat silently listening and after we had all finished she looked disappointed. With her usual fiery remarks, she began to tell us that she didn't want to hear that we had gone to the opera; she wanted to hear that we were going out to witness experimental theater in Brooklyn. She explained to us that her gift was purposefully limited. She wanted it to be a catalyst for our own creative pursuits. She wanted us to stretch her gift and fuel our own ability to seek experiences and culture. I remember feeling like an old man sitting in the room with a hip young woman keying me in on the latest strange and contemporary happenings in New York City. Irma wanted to foment and instill a drive and energy within her fellows. Most of us did not come from backgrounds where we had access and resources to do the conventional, but that's not what she gave us her gift for. She gave it to us to continue to stay hungry and continue to push ourselves.

Additionally, she funded the Irma Giustino Weiss Prize, a no-strings-attached gift to help top graduating artists or architects develop their careers. Irma identified students she believed could change the world and propelled them forward with her gift. For Katerina Kourkoula AR'08/M.ArchII'12, the gift accomplished its purpose. "I was able to allow myself not to compromise my decisions for the first few years out of college. It allowed me the luxury to take decisions about the direction and projects I was involved in based on my interests and career goals, and not always based on the monetary outcome. This was a freedom that helped steer my career in the way I wanted." Kourkoula pursued her master's degree, taught studio art at The Cooper Union, worked for an architectural research group in Zurich, and recently co-founded her own architectural practice, En Route Architects, in Athens, Greece. "The Irma Giustino Weiss Prize for me was the ultimate expression of trust that motivated and still motivates me to live up to its expectations," she says.

Irma planned her final gift to Cooper to be one that keeps on giving, and it already has. Upon learning about the challenge, an anonymous alumna from the School of



Art provided a \$2 million gift. This gift will also be directed to a scholarship endowment fund, which will help students attend The Cooper Union for many years to come. President Laura Sparks is sincerely grateful for this gift and the initiative taken by the anonymous donor to kick off the challenge. “This gift will have a transformative impact on our efforts to meet this challenge, and will spark a philanthropic movement in our community,” she says.

Like Peter Cooper, Irma Giustino Weiss encouraged a spirit of philanthropy throughout her lifetime and now with her legacy. “It’s inspiring that, among her many acts of generosity, Irma’s final gift to Cooper Union took the form of a challenge grant,” says Rebecca Casbon Salgado, who received the Weiss prize upon graduating with her bachelor’s degree in architecture in 2007. “In this way, she not only gave directly to the school and its students, but also gave indirectly by encouraging others to share in her generosity.” ●



Courtesy Alexandra Bull

ALEXANDRA BULL A'10 CULTURAL ENRICHMENT FELLOW 2010

Through the program, I was able to partake in New York City experiences that helped mold me into the artist and designer that I am today. I used my fellowship to explore art events and museums in order to stay current, inspired, and motivated. I dabbled in many media during my time at Cooper, just as I do today, so being able to explore a wide range of exhibitions without having to worry about admissions allowed me to keep current across many topics and media. Students have a lot of challenges to worry about and the Weiss Fellowship helped me stay focused on being creative without limitations—which is what Cooper is all about.

Since graduation, I have been an art assistant for a photo/performance artist, freelanced as a brand-identity graphic designer, and designed and created handmade products for a fashion designer in SoHo as the lead artist. I currently work as a senior art director at an advertising agency. Most recently, I worked on a Super Bowl ad featured in 2016. I also quilt with recycled materials for fun in my spare time!

My one takeaway from Irma Weiss is that generosity should never be taken for granted. It is imperative to pass along the goodness that is given to you by paying it forward in another way to another individual later.

Recycled-material quilt

COOPER IN SPACE

BY CECILIA CAMMISA | ANGELA STARITA

In spite of not having an aeronautics or rocket design program, since the '60s and '70s and the dawn of the "Space Race," Cooper Union graduates have played important roles in designing, building, and launching the rockets and satellites that have changed the way we understand our world and the entities outside it. One early graduate in the industry is Dick Schwartz ME'57, a former member of the Board of Trustees, who worked on the lunar landings, the International Space Station, and the first launch of the Global Positioning System satellites that support our gargantuan network of smartphones and devices today. Another is Maxine Nietz CE'76, who served as mission operations controller for NASA's Jet Propulsion Lab (JPL), coordinating communications with the Pioneer, Helios, Viking, and Voyager probes. Since then, many of our alumni have entered the field of aerospace and are applying their Cooper educations to the reimagining of the space-launch business model, whether at SpaceX, NASA, or any number of Silicon Valley startups in aerospace engineering.



Navigating the “final frontier” allows for and even requires highly innovative problem solving, which is perhaps why it appeals to so many young people. General John W. Raymond, current commander of the Air Force Space Command, recently spoke to Cooper students, faculty, and staff at the invitation of President Sparks. He noted that it takes the inexperienced, ambitious approach of a younger workforce to re-evaluate and revolutionize accepted practices in space exploration. Elihu Herskovits EE’10, for example, applied to work at SpaceX straight out of Cooper because, he says, “I believe in the goal of making humanity a multi-planetary species, and they are very serious about working toward that.” SpaceX, the Elon Musk startup, aims to disrupt space travel as we have known it by reducing the cost of launches through reusable rocket parts and increasingly automated processes. It intends to make space travel available to the general public, with the ultimate goal of enabling humanity to live on other planets. “I think it’s completely possible, completely realistic,” says Daniel Nash ME’12, who has also worked for SpaceX. “The technology is there; it’s just a matter of money and funding and commercial interest.”

To many this might seem an “out there” aspiration, but a number of Cooper graduates working in aerospace take the premise seriously. When asked how he himself would feel about being in space, Nash replied: “I don’t think of [becoming an astronaut] as the pinnacle of my work, like an Eagle Scout badge. It just would be very cool and is becoming increasingly possible. We’ve carved our own niche in the universe and it is an entirely human thing. Everything we do in space is made possible by human technological achievement; you’re the next stage in human evolution, doing something nature never intended you to do.”

Daniel Nash (far right) at NASA’s Jet Propulsion Laboratory’s micro propulsion cleanroom.



U.S. Air Force

On October 17, 2017, General John W. “Jay” Raymond addressed an at-capacity Rose Auditorium audience about the Air Force Space Command, where he is commander. Located at Peterson Air Force Base, Colorado, the Air Force Space Command provides resilient and cost-effective space and cyberspace capabilities for the nation. In this role, he is one of the highest-ranking uniformed officers in charge of space for the Air Force and the Department of Defense. He is responsible for organizing, equipping, training, and maintaining mission-ready space and cyberspace forces and capabilities for the North American Aerospace Defense Command, the U.S. Strategic Command, and other combat commands around the world.

General Raymond met Laura Sparks at a leadership conference a few years ago. This fall, she invited him to campus to hold a discussion with students and faculty about popular topics such as space exploration and cybersecurity. General Raymond also had lunch with a small group of faculty and students, including mechanical engineering sophomore Connor Lowry, who were interested in his expertise.

“As someone who intends to work in the aerospace field, I thought the opportunity to talk to General Raymond would give me the best insight into the future of the field,” Conner says. “I think the biggest takeaway from the talk is that the future of space exploration requires cooperation across the entire world. If we want to expand our horizons into orbit and beyond, the nations of earth need to be responsible for not only the launch of their vehicles, but also any debris that unavoidably ends up in space. That being said, the general was hopeful for the future; since entering this position he has found that level of cooperation throughout engineering across the world.”



Courtesy SEArch+

Michael Morris

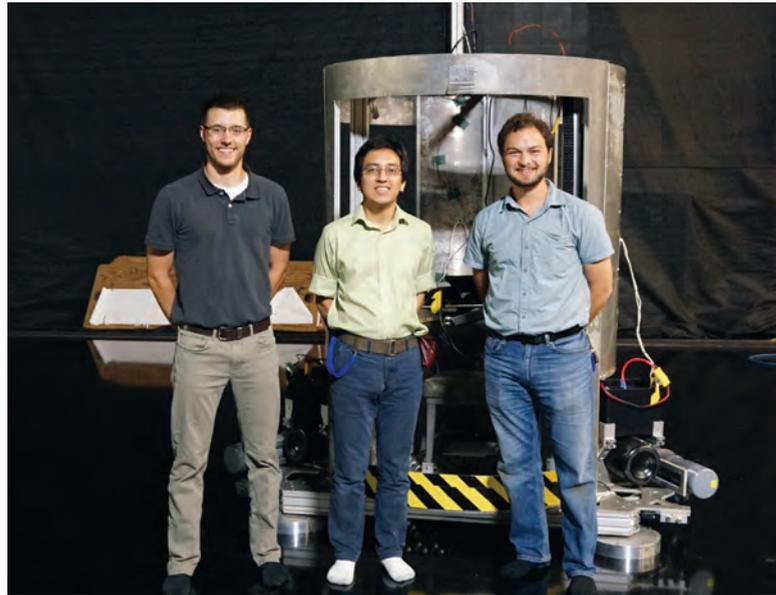
Michael Morris, who graduated from The Irwin S. Chanin School of Architecture in 1989 and currently teaches as an associate professor here, is moving toward that next stage. Space Exploration Architecture (SEArch+) is Morris' research group, created to "conceive, investigate, and produce innovative 'human-centered' designs which enable human beings to not only live, but thrive in environments beyond Earth," according to its website. Based on a lightweight infrastructure easily erected by robotic equipment, the Mars Ice Home uses materials readily available on the planet (ice and carbon dioxide) to create a habitat for Martian explorers. In 2015, SEArch+ was chosen by NASA to collaborate on the development of the habitats our astronauts will actually use in the first manned exploration of Mars.

Maxine Nietz credits her Cooper education with giving her the fortitude to seize opportunities like the one at the Jet Propulsion Lab (JPL) that led to her becoming a mission operations controller: "My education prepared me for almost anything. It made me open to learning new things, understanding the technical sides of things, being adaptable, following through on projects." After moving to Southern California, Nietz answered a newspaper ad for a job at NASA, where she first worked as a negotiator, a job involving managing communication between distinct satellite operations. She eventually worked as a mission operations controller, monitoring data from spacecraft and ensuring that communication methods remained sound throughout a mission. "It's 24-hours-a-day shift work, and I was the first woman ever to do that. We were getting ready to track the Voyager spacecraft, and I guess the other controllers were flustered because after we set up our download, they called in and said, 'Was that really a lady just now?'"

Several alumni we interviewed for this story noted the lack of female engineers in aerospace. The Cooper Union is fortunate to have many women in leadership positions in the Albert Nerken School of Engineering, including Anita Raja, associate dean of research and graduate programs; Andrea Newmark, chemistry chair; and Melody Baglione, the current George Clark Mechanical Engineering Chair. Recently,



Ben Greenberg ME'18



Greenberg (far right), with colleagues at the Marshall Space Flight Center

Courtesy Ben Greenberg

Cooper hired two women assistant professors of chemical engineering (see related story on page 10), one of whom, Amanda Simson, studied aeronautics and its history as an undergraduate. “My experience as an undergraduate was seeing between two and five women per year out of 20 students. There were classes with only one woman in a class. At Boeing [one of Simson’s previous employers] there were 40 people on my team, and only one woman besides me, and I was a temporary co-op.”

While the school of engineering offers classes in rocket science and aerodynamics, among other related disciplines, The Cooper Union does not currently have a major in aeronautics. However, this seems to have helped rather than hindered most alumni interested in the field. “Aerospace is a very multi-disciplinary field, and the best engineers know a little about everything. Mechatronics or an equivalent course promotes interdisciplinary understanding and gives you exposure to working on a team with people who have a potentially overlapping, but fundamentally different, set of skills,” Nash says. Mechanical engineering senior Samuel Lee, who has interned at the Air Force Research Lab at Eglin Air Force Base in Florida, notes that “the rigor of the fundamental courses here, namely the math and fluid mechanics, has helped me become accustomed to tackling complex concepts.”

When asked how Cooper students can best pursue a career in aeronautics, many alumni emphasized the importance of electives and internships. Dr. John Hennessy EE’02, a technologist at NASA’s JPL, says that “no matter what engineering area you are in, you can steer your elective focus toward specialties in aerospace. Identify a path for the things that interest you and are relevant for the aerospace programs you find most interesting. JPL and most NASA centers have robust internship programs with a wide cross section of disciplines.”

Current Cooper students are already taking advantage of many of these opportunities. Mechanical engineering senior Ben Greenberg spent last summer working for the Marshall Space Flight Center in Huntsville, Alabama. “The program I was in—the Space Hardware/Robotics Academy—took 13 students. We made

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NEW FACULTY

BY ANDREW ARNOLD

Following last year's remarkable influx of seven new full-time, tenure-track faculty members across three academic branches, the reinvestment in teaching resources at The Cooper Union continues in the 2017/18 academic year with the hiring of four new assistant professors. The Irwin S. Chanin School of Architecture welcomed Lorena del Rio and Michael Young, the school's first full-time faculty hires since 2005. At the Albert Nerken School of Engineering Amanda Simson and Jennifer Weiser have joined the chemical engineering department, where the last round of tenure-track professors was hired in 2009. At the same time, two new members of the administrative staff who directly support students and faculty have come on board. Adriana Farmiga A'96 has been named assistant dean at the School of Art, and Antoinette "Toni" Torres joined as director of strategic initiatives and institutional effectiveness. See sidebars.

"The Faculty Committee was looking for individuals who could speak to Cooper culture while also imagining different ways of extending and transforming it into a new era," Nader Tehrani, dean of the school of architecture, says. "The idea was to tap into practicing architects who had other interests that could support seminars and allied intellectual work."

LORENA DEL RIO exemplifies that multidisciplinary approach. Born, raised, and educated in Madrid, she co-founded RICA* studio along with Iñaki Carnicero; it has offices in Spain and New York City. She also taught for four years at Cornell University prior to coming to The Cooper Union. "What originally drew me to architecture was the idea that an architect can never work in isolation," del Rio says. "I'm especially interested in an interdisciplinary approach to design where architecture, art, and material research meet to investigate architecture's psychological effect and its capacity to promote emotional well-being."

In a recent example, the English for Fun Centre in Madrid needed to represent the center's goal of using teaching methods that engage the five senses. To foster this, RICA* designed "inhabitable," modular dividing walls in a sunny yellow hue that store furniture and objects as well as being a play space on a scale for children. "Design can be a powerful tool to shape cognition and experience," del Rio says.



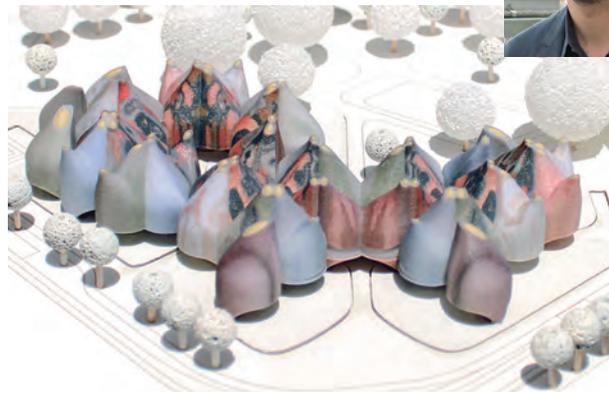
João Enxuto



“Beyond design, Professor del Rio’s work on building technologies made her an ideal candidate to contribute to courses that could integrate material thinking, environmental performance, and systems of production within the design studio,” Tehrani says.

Del Rio has plans for her approach to teaching at Cooper. “My goal is to blend what I learned in Europe with my experience in American academia in a pedagogical approach that integrates the best of both worlds. I am thrilled to be part of such a legendary institution as Cooper Union, and be a part of the unique spirit of its faculty and students,” she says.

MICHAEL YOUNG has been teaching at The Cooper Union since 2005. “His research in the history of representation, his work in digital modeling and fabrication, as well as his long-standing contributions to the program, were seen as a huge advantage,” Tehrani says. Young has been tapped to help advance a technology push at the school that includes a newly expanded computer lab with fabrication capabilities such as 3D printers, plotters (super-sized printers), laser cutters, and other equipment.



“My interests as an architect and educator are in the relationships between architecture and the environment as an aesthetics of the near future,” Young says. “This involves design experimentation with questions of representation, construction, technology, ecology, geometry, and aesthetics. What initially intrigued me as an undergraduate student in architecture was the possibility that the way I assumed the world should look, feel, and behave could be different. Architecture is a constantly developing cultural discourse about how the world could be other.”

In 2015 his practice, Young & Ayata (co-founded in New York City with Kutan Ayata), received a first-place prize to design a new museum for the Bauhaus Museum in Dessau, Germany. “A century ago, the Bauhaus presented a social experiment in how design pedagogy could be different in the wake of developments in technology, aesthetics, and craft. Our building proposal sought to find an architecture to reflect this spirit 100 years later, at the start of our current century.” The result resembles a collection of bulb vases grouped together and skinned in a multicolored pattern of glass tiles laid in patterns alluding to the fragmented organizations of textile weaving.

“The Cooper Union occupies a unique place in the world of architectural education. It has made significant contributions to how an architect should be taught in relation to the intuition of creativity, the rigor of conceptual argumentation, and the social



ANTOINETTE "TONI" TORRES

arrived about six months ago as Cooper Union's new director of strategic initiatives and institutional effectiveness, but "institutional life coach" would be shorter and maybe more to the point.

"I am here to identify where we have opportunities to continue to support our students and faculty and ways they can achieve their potential," she says. "That means understanding the impact of new pedagogy, and creating greater partnerships in the community, to looking at data to understand how students are moving through their Cooper experience, and then using those data to guide strategic priorities in a more data-centric way and to use evaluation and assessment to understand our progress toward those priorities."

You need to stay alert to keep up with Toni. But she actually specializes more in listening and data collection. In the short term, she works on navigating the rocky shoals of Cooper Union's decennial Middle States accreditation process, which comes up for review in 2018. But longer term, "What I have been doing is listening to faculty and looking at data from both the admissions and financial aid offices to better gain insight about the student experience."

One of her efforts has been the creation of a Diversity and Inclusion Task Force made up of faculty, staff, and students to develop practices and make recommendations for working toward greater participation of women and diverse students. She has other subjects she would like to tackle on a community level. "Facilitating good communications means recognizing there is not always going to be agreement. Everyone has good ideas. We have to find common ground, agree to disagree sometimes and feel comfortable with that."

impact that architecture presents in the world. I greatly look forward to working with the students and faculty to explore what new directions the legacy of The Cooper Union can produce as speculations toward the near future."

Over at the Albert Nerken School of Engineering's chemical engineering department, Irving Brazinsky, a longtime professor, retired this year and Richard Stock, a former chair of the department, stepped away from teaching to become the acting dean in 2015. As a result, the school launched a search for two new professors. "We specifically tried to find candidates who were able to teach a wide range of core chemical engineering courses, as well as provide new electives and research opportunities," Daniel Lepek ChE'04, associate professor for chemical engineering and a member of the search committee, says. "While candidates from traditionally underrepresented groups in engineering were particularly encouraged to apply, the committee specifically sought to hire the best candidates possible. Since the president views diversity and inclusion as important cultivating elements of an engaged, welcoming community, we were fortunate that our top two candidates were both women. With their hiring, the gender diversity of the chemical engineering faculty essentially matches that of the student body in the department, which is often approximately 40 to 50 percent women."

Interestingly, there is only one chemical engineering degree among the six degrees held by the two new professors. "This truly highlights the progressive and forward-thinking nature in which the Department of Chemical Engineering operates," Lepek says. **AMANDA SIMSON** is a perfect example. She studied aerospace engineering and history as an undergraduate. When she learned about sustainability and climate change she realized she wanted to work on energy technologies and understand the problem as fully as she could. "I decided to study chemical engineering in graduate school," she says, "because in addition to taking Advanced Transport Phenomena, it also allowed me to fully understand the social problem I was the most interested in working on."



She became an expert in the field of heterogeneous catalysis (adding specific elements to reactions to make them more efficient) with a focus on air pollution control and alternative-fuel

processing. After receiving her Ph.D. in earth and environmental engineering from Columbia University in 2013, she spent two years at Watt Fuel Cell, a startup that turns various fuels into hydrogen to power fuel cells.

“I am excited to develop a new course on environmental catalysis and to continue to teach my favorite class, Thermodynamics,” Simson says. At Cooper, her research will remain focused on small-scale alternative-energy technologies. “I’ve been looking at using domestic yard waste as a fuel source. It’s the ultimate ‘get your hands dirty’ project—students grind up acorns in a blender in the lab—and through a series of thermochemical processes get a pretty consistent fuel called biochar. Making biochar is something many people have been looking at recently, and the big question is, what is the best use of it once you make it? I’m trying out a few fun things.”



Her new colleague, **JENNIFER WEISER**, likewise has a love for biomaterials, but focused on the field of biomedical engineering. “The ability to create new devices that may directly impact a person in need medically has been my driving motivation,” she says. “More specifically, my research focus is on synthesizing polymeric biomaterials for wound-healing applications.”

Recently she has been working with the Otolaryngology Department at the Yale School of Medicine (think “eye, ear, nose, and throat”). One of the surgeons presented her with a problem related to saliva management during reconstructive surgery after a laryngectomy. Saliva’s ability to degrade things rather rapidly causes secondary problems. Weiser has been working on developing a biomedical device using a polymeric material that is resistant to saliva permeation. The goal is to help manage this problem, reduce complications, and shorten hospital stays for patients.

“I have spent many years as a scientist and an engineer, whether in academic labs, big pharmaceutical companies, or small startup companies,” Weiser says. “However, teaching is what I love most. I look forward to being able to share my knowledge and experiences with the students of Cooper Union. My coming in to the department with a more medical focus may help expose the students to other areas of science and engineering of which they may have been previously unaware.” ●

Tria Jeung



ADRIANA FARMIGA A'96,

who has taught at the School of Art since 2011, has been appointed assistant dean at the school. Farmiga is undaunted by the prospect. To her, this new role is just “one more moment to be able to focus my efforts and demonstrate my enthusiasm for our community.”

“The first day of every semester I tell each group of students that we are our own community. It’s this community that has supported us in unique and complex ways over the last 10 years. Our dedication to the common good and the community of the School of Art is the good citizenship of Peter Cooper, and it starts day one in the classroom.”

Farmiga is a perfect partner, Mike Essl A'96, dean of the School of Art, says. “Adriana is an invaluable resource. Her deep involvement and familiarity with the school, dedication to our students, and of course her incredible work as an artist made her the obvious choice for the job. She literally doubles my efforts as a dean.”

As well as teaching, Farmiga works as an artist. She got her M.F.A. from Bard College in 2004, and has shown in group and solo exhibitions in the United States and abroad. Her work has been reviewed in the *New York Times* and *Artforum*, among other publications, and ranges from conceptual still lifes to video and mixed-media sculpture.

Farmiga’s latest work was recently on view in a solo show titled “Blue Hour” at Marisa Newman Projects. As part of that work she had a conversation with fellow artist Fawn Krieger, a sculptor and adjunct faculty member at Adelphi University. In it, the new assistant dean talks about her artwork and the work being done at the School of Art. You can read it exclusively at cooper.edu/farmiga-krieger.

ONCOOPE



LOOK CLOSER
ANNIKA FINNE'S COURSE "READING SURFACES," TAKES STUDENTS TO THE MET AND ELSEWHERE TO CONSIDER HOW MASTERWORKS ARE CONSTRUCTED



LINDA POLLAK
A SOLO EXHIBITION OF THE ARCHITECTURE PROFESSOR'S INSTAGRAM PHOTOS



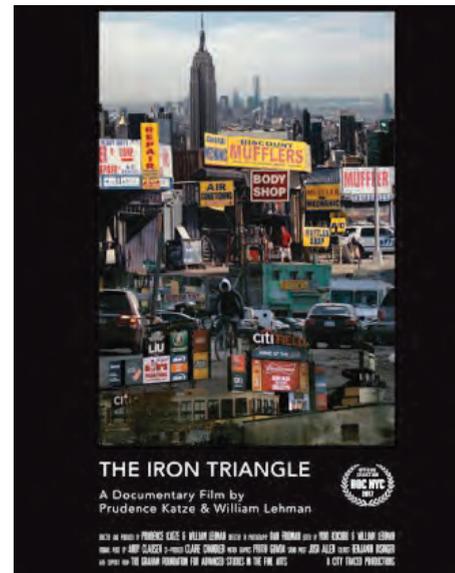
ARCHITECTURE STUDENTS & FACULTY IN IDEASCITY 2017
LED BY ASSISTANT PROFESSOR LORENA DEL RIO, STUDENT VOLUNTEERS FABRICATED SEGMENTS OF A DESIGN FOR A STEPPED SEATING ENVIRONMENT THAT, WHEN FULLY ASSEMBLED, IS CIRCULAR IN PLAN



A CHAT WITH MARIA THEREZA ALVES A'85
HOW SHE USES ART TO ADDRESS ONGOING COLONIALISM



WILLIAM VILLALONGO A'99 SOLO EXHIBITION
SCHOOL OF ART ASSISTANT PROFESSOR'S COLLECTION OF FIGURATIVE WORKS IS TITLED "KEEP ON PUSHING"



CLASS NOTE
PRUDENCE KATZE A'09 CO-DIRECTED AND CO-PRODUCED *THE IRON TRIANGLE*, A DOCUMENTARY THAT RECENTLY PREMIERED AT DOC NYC 2017



NOW YOU SEE IT...
BILL GERMANO, PROFESSOR AND AUTHOR OF *EYE CHART*, REFLECTS ON A DIAGNOSTIC TOOL THAT HAS BECOME A CULTURAL MEME

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IN CASE YOU MISSED IT...

WATCH THE VIDEOS OF DANIEL LIBESKIND
AR'70 AND MILTON GLASER A'51 DISCUSSING
THEIR WORK IN THE GREAT HALL



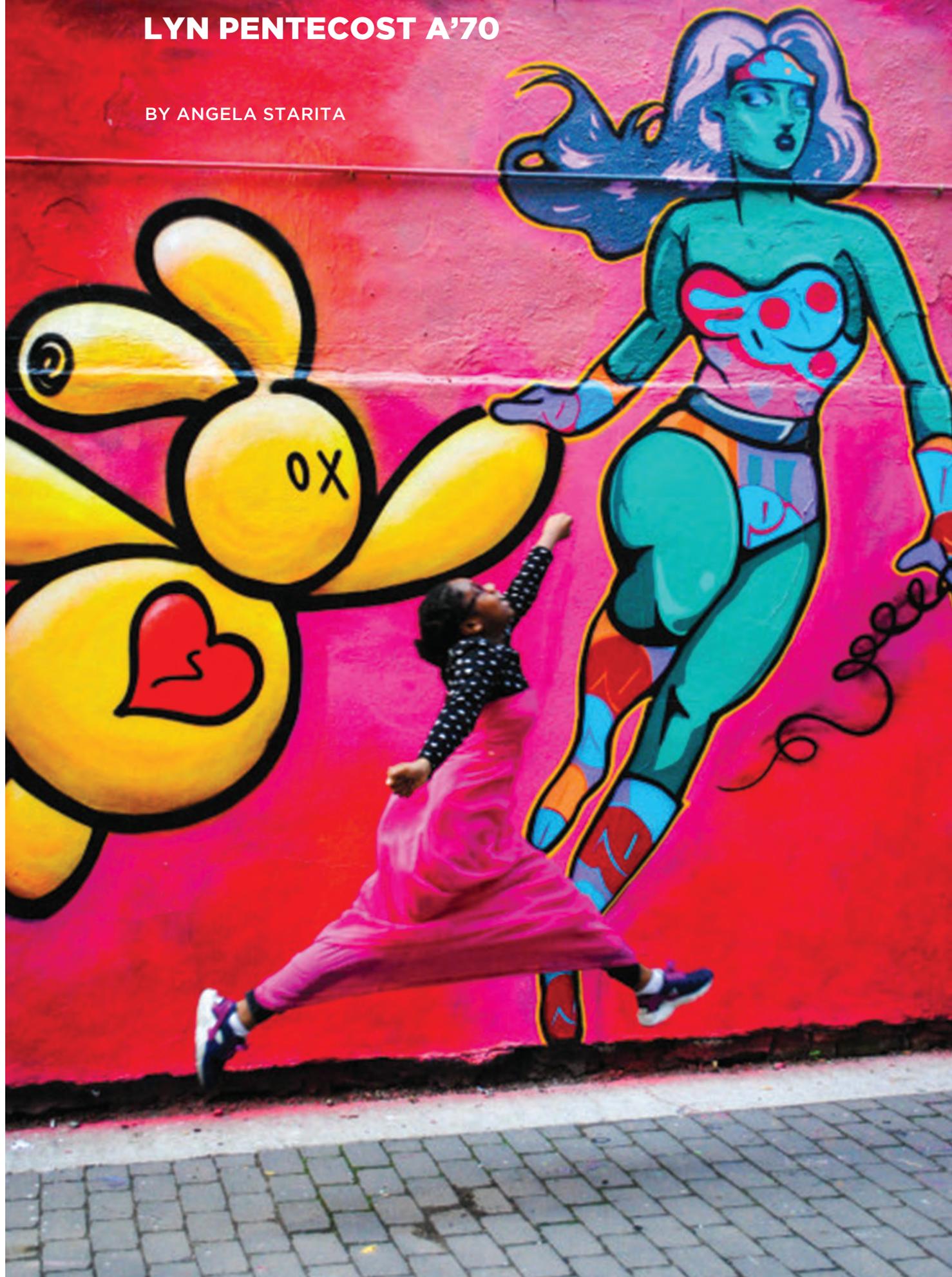
HEALTHCARE-FOCUSED
STUDENT WORKS WIN PRIZES

IN ONE WEEKEND SENIORS GIOVANNI
SANCHEZ AND RUCHI PATEL AND JUNIOR
SIMON SHAO ALL TOOK HOME CASH
AWARDS FOR INNOVATIVE SOLUTIONS

GIRL POWERED

LYN PENTECOST A'70

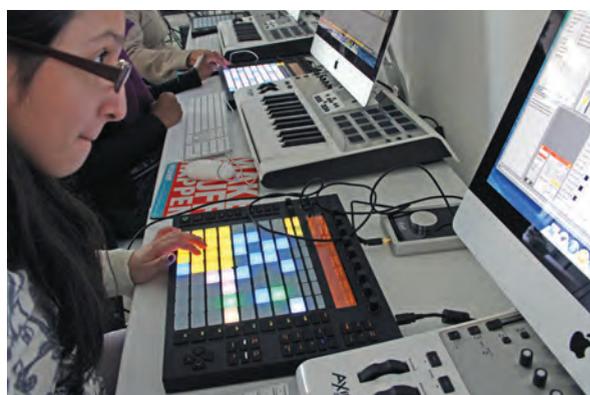
BY ANGELA STARITA



Lyn Pentecost, the founder and director of the Lower Eastside Girls Club (LESGC), recalls her first foray into community arts while a student at The Cooper Union. It was 1968 and the school's president, John White, recognized that the student body was politically savvy and highly active on a lot of fronts. "We could walk right in and talk to him about whatever was on our minds," she says. Students demanded that the school give back to the community, which of course was an essential tenet of Peter Cooper's. "They got us an abandoned building on East 6th Street," Pentecost recalls. "We ran a program out of two floors of the building. We taught printmaking and had a printing press. We had an NYC Department of Cultural Affairs contract to design and silkscreen posters for the entire emerging communi-arts scene."



Today Pentecost's stomping grounds are still the East Village, but she now focuses her formidable energies on the fate of neighborhood girls from low-income families who, as they enter adolescence, are saddled with daunting challenges that can determine the path of their entire lives. According to the 2010 census, almost 40 percent of area families live in poverty. Pentecost has long lived in the neighborhood, her adopted home from college days, having grown up in Clifton, New Jersey. While raising two boys, she noted that the neighborhood had the Boys Club of New York on 10th Street and Avenue A, a haven for local boys looking for extra school help, athletics, and mentoring. No equivalent services were provided for girls. Pentecost, who has the air of a woman who sees no obstacles—or at least none that she can't face down—set out to fill in that gap starting in 1996 by



co-founding the Lower Eastside Girls Club. Like her alma mater, the club would provide opportunities for girls to learn skills in art and science. In its first years, the club struggled to find a permanent home, and took space wherever possible—19 different locations in all, including the back of an old underwear shop and a former Catholic school. Finally in 2013, after years of fundraising, the club opened its remarkable center on Avenue D between 7th and 8th Streets, right across from public housing that the club’s literature aptly calls a “solid wall of poverty.” Today the club serves about 150 girls a day (thousands per year), and its many past homes are now memorialized in a mosaic map of the Lower East Side inside the current clubhouse.

The center is in many ways a physical manifestation of Pentecost’s why-not-think-big approach. The girls produce podcasts in the club’s radio station, WGRL (Where Girl Radio Lives), which is housed in an Airstream on the club’s second floor. They learn coding skills in the maker shop/engineering lab. They take cooking classes in the fully outfitted chef’s kitchen—complete with pizza ovens donated by Two Boots—where the girls’ meals are prepared every day. They learn drawing, painting, screen printing, curating, and art history. The students work with an on-staff gardener to maintain a roof garden where vegetables and fruit are grown, and study fitness at a yoga/dance studio. Most incredibly—thanks to board member Carter Emmart, director of astrovisualization at the American Museum of Natural History—they can watch the museum’s shows in their own East Village planetarium, a 64-seat theater with a 30-foot digital dome. The girls’ artwork can be found at every turn. There are photographs of the girls visiting neighborhood murals while dressed in pink gowns as they “bring power to the color pink.” And through a collaboration between the girls and visiting artists, the club’s bathrooms are covered in brightly colored mosaics. Girls are also encouraged to be entrepreneurs. They run a bake shop called Sweet Things, and La Tiendita, a gift shop at the Essex Street Market, whose proceeds support international partner clubs. In the club’s Earth Ocean Study Center, girls use a sophisticated bio lab to learn about water ecology, and couple that knowledge with activist environmental campaigns. They recently participated in the Sandy5 climate march with partners 350.org and LES Ready. As part of the Girls Gone Green program, club members learn about urban farming and food justice, an important topic in a neighborhood that offers little in the way of fresh foods for its residents. Not least,





Pentecost says, “literacy is embedded in all our classes. The girls are being exposed to reading in a way that they don’t experience at school.”

On a recent weekday, Pentecost gave a visitor a tour of the large center, which was built in 2013 on six empty lots purchased from the city. The space

is covered in the art and history of the Lower East Side: one room alone has a huge sculpture by Karl Mann called “Loisaida,” the Spanglish name for the neighborhood, and a metal table that had belonged to Dorothy Day, whose Catholic Worker is located on East First Street. As Pentecost led the way through the club’s many studios and meeting rooms, she fielded questions from colleagues (they gave her updates on the visit scheduled later that day with culinary legend Alice Waters), greeted a few early arrivals, asked the chef what was being prepared for the girls, and answered phone calls about her upcoming trip to New Orleans, where some of the girls will participate in that city’s triennial of contemporary art called Prospect.4. In fact, during the month of November, Pentecost traveled to visit their sister club in Chiapas, Mexico, and to Los Angeles with some of the girls to work on a collaborative project with Las Fotos, a program that teaches teenage girls photography.



After Cooper, Pentecost earned her doctorate in visual anthropology and worked as a documentarian in Chiapas, home to the country’s Zapatista movement, which arose as a response to dire conditions for residents, many of whom are indigenous. Building on her knowledge of the area, she partnered with local indigenous women to form Club Balam in Chiapas, which provides similar programs for girls and has collaborated extensively with the New York club, including exchange visits to let the girls make connections across borders. LESGC maintains partnerships with clubs in Sierra Leone, Nepal, Scotland, Hudson, NY, and New Orleans, and on the Flathead Reservation in Montana.

Pentecost is notably talented at finding support for LESGC, having raised the \$20 million needed to build and outfit the 33,000-square foot clubhouse. She has built a roster of patrons that includes celebrities Rosario Dawson, a member of the club’s board of directors, and Adria Petty, whose father, the late Tom Petty, contributed guitars to the club. She has also found supporters among media and financial professionals who have donated money and time to make the club’s ambitious programs a reality. Although grants from the city fund about 20 percent of the club’s budget and another 40 percent comes from foundations and corporations, individual donations make up the remaining 40 percent of the club’s finances.

LESGC promotes experiential learning, so girls work on projects that give them knowledge of a host of skills that can be put to use in myriad ways. To make podcasts,



they are trained in conducting research, asking relevant interview questions, and implementing the audio software ProTools. Their thoughtful and refreshing interviews with local political leaders, entertainers, and businesswomen can be found on the club's website. When taking a course in photography, students learn the mechanics of picture taking—using a camera as well as image software—and are equally encouraged to use the medium to explore aspects of themselves and their community. This last is central to the mission of the club, which honors local history and knowledge, respects the girls' experience, and gives them a platform to make change, often through art.

Each girl who joins the club is outfitted with a “survival kit”—an LESGC tee shirt, a USB jump drive, and a water bottle. Each item represents different aspects of the club's overall goals for the girls: the shirt symbolizes a sense of belonging and community; the flash drive represents education; and the water bottle stands for each member's commitment to health. It's a logical component of girls' education, considering that one of the central gains of the 1970s women's movement was greater control over issues related to health. At the club, girls can study yoga, dance, and nutrition, and can participate in the running club, which meets weekly. It's led by Valerie Galindo, the club's cooking instructor and an original member of the Lower Eastside Girls Club, who joined when she was 12 years old. She attributes much of her success to her experience with Pentecost and the club.

Galindo, one of four sisters who grew up on the Lower East Side, attended the Culinary Institute of Education, where she trained as a pastry chef, all the while working at the club. The hours were long, but it was worthwhile: today she's head of the club's kitchen, which feeds some 150 girls a day, and teaches cooking classes both to the girls and to some of their mothers. About two years ago, she took up running, and ran her first half marathon in March 2017. Since undertaking

regular exercise, Galindo has lost about 50 pounds, and trained for her first New York City marathon. She feels LESGC gave her the support and the vision she needed to control the direction of her life.

“I don’t really have words to explain my feelings about Lyn,” Galindo says.

Krista Lamar, an assistant in the art program, came to the club via her mother, who started there when she was 13 and studied photography. Lamar, who lives around the corner from the center, herself learned to use a digital camera thanks to Lou Dembrow, her mother’s teacher. She found that she too had a passion for the arts, photography, and film, and attended an arts high school where she used a darkroom, a skill she had first encountered on field trips to film-processing shops with the club. “Many of the teachers here watched me grow along with my mother and have been a part of my life for a long time.”

Miladys Ramirez, who is the club’s full-time receptionist, sums up Pentecost’s legacy in her own life: “If it weren’t for Lyn, my two daughters wouldn’t have gone to college.”

And it seems that neighborhood women will be saying the same for years to come: in September 2018, Pentecost and the LESGC are launching a new school for eighth-grade girls who would otherwise be required to repeat that grade before going on to high school. Aptly called Restart Academy, the school will use the club’s immersive, hands-on approach for girls needing to jump-start their educations. It’s an undertaking Pentecost has been considering for years. In her hands, it’s hard to imagine it won’t have a resoundingly positive impact on its students, as well as their future children. As Lamar, daughter of an LESGC alumna, put it, “I love to draw and paint and I think I would have never found that if it weren’t for the volunteer artists from the area teaching and pushing me to try no matter what.” ●



Courtesy LESGC

“I always take selfies.”

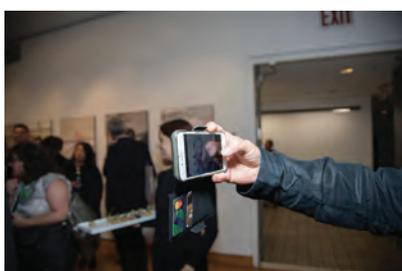
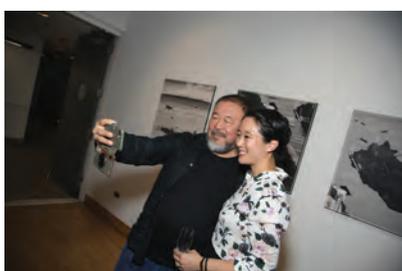
@COOPER #AIWEIWEI

In public spaces and notable buildings, at bus stops, and on street signs, elements of an exhibition by Chinese contemporary artist and activist Ai Weiwei appeared in New York City this fall. The exhibition, “Good Fences Make Good Neighbors,” is the artist’s response to the global migration crisis and his attempt to shine light on the divisions it has created. On October 12, Ai took to the Great Hall stage in conversation with Nicholas Baume, director and chief curator of the Public Art Fund,



Because when I think about public art, I think about the internet.”

sponsor of the exhibition. One piece, an imposing metal fence, is installed on the north side of the Foundation Building at The Cooper Union. While this exhibition takes physical form, Ai has also become a master at harnessing the power of the internet and social media in his works. The artist is no stranger to the “selfie” as a medium. Photos by Marget Long



COOPER IN SPACE *continued from page 9*

additions and improvements to a simulator for a single-person spacecraft, which is intended to take the place of the traditional spacesuit on deep-space missions.”

On a more personal note, Schwartz stressed the importance of setting high standards when working in the field. “You’ve got to have a very high requirement for quality in what you do. You launch a satellite: you kiss it goodbye. You’ll never see it again. So it better be in good shape when you let it go. I tried never to bring my work home, but one day my wife saw I was a little nervous and I told her, ‘That satellite has 30,000 parts on it, and if one of them fails it will be because I did a lousy management job.’”

For current SpaceX employee Spyros Korsanos ME’13, the many opportunities to work on immersive projects at Cooper were key to their work in the field. “Hands-on projects not only give you a practical understanding of how all that class work is applied to something real, but more importantly they are the easiest way to differentiate yourself from your peers: every hands-on project is unique and faces unique challenges. At Cooper, the Formula race-car team helped me understand (among many other things) how a complex team interacts to solve a problem and how that problem can have multiple ‘right’ answers, but only a few that will actually work.” Korsanos also attributes his own high standards for personal and group achievement to his education at Cooper. “SpaceX challenges its employees with not just doing their best, but finding out what their best work is and doing even better; finding out where your limit is and then going beyond that. That’s something that I don’t think I could have found at any college other than Cooper Union, under the mentorship of my professors there, and I’m grateful for that.” ●



Courtesy Spyros Korsanos

Cooper alumni who have worked at SpaceX in front of the landed rocket monument. From left: Spyros Korsanos ME’13; Daniel Bach ME’15; William Biesiadecki ME’14; Sergio Rodriguez ME’16

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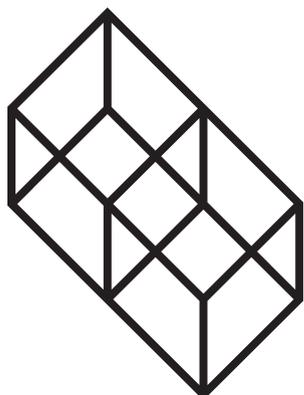
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