



2019 ANNUAL REPORT

*Fueling innovation at the intersection of
architecture, engineering, and
building construction*



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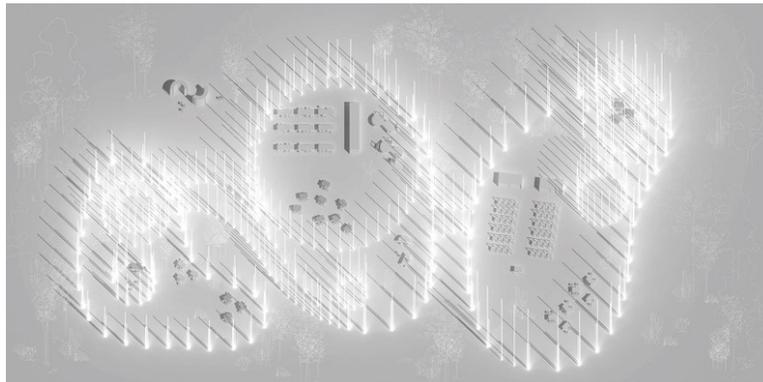


Image: Columbia GSAPP Housing Study by IDC Foundation Fellow

INTRODUCTION

In 2019, the IDC Foundation's total grantmaking rose to \$9.98 million – with all funds advancing research and the training of students in fields relating to architecture, engineering, and building construction. The grantmaking focuses on transforming these fields through innovative approaches to cross-sectoral collaboration, increased student access, and enhanced student experiences.

This was the second year of grantmaking for the Foundation, which continued its practice of focusing its funding, for maximum impact, on five institutions of higher education in Greater New York City: Columbia University's Graduate School of Architecture, Planning and Preservation (GSAPP); New York Institute of Technology; NYU Tandon School of Engineering; Pratt Institute, and The Cooper Union for the Advancement of Science and Art.

The IDC Foundation's total grantmaking rose to \$9.98 million in 2019, its second year of grantmaking.

In 2019, the Foundation also extended and enhanced its practice of convening leaders of its grantee institutions to share insights and stimulate further opportunities for collaboration and innovation across these fields. The Foundation hosted its first public event – a panel discussion, featuring the five women who lead its grantee institutions. The occasion provided a fascinating thought-provoking conversation on “Innovations & Intersections: Architecture, Engineering & Building Construction.” A dinner thereafter enabled the panel members and other officials of the five institutions to share more insights on the topic.

Both the funding and the inspiration for the Foundation come from the Institute of Design and Construction, which was similarly focused on these three fields. At its campus in downtown Brooklyn, the nonprofit technical college trained more than 30,000 students as architects, engineers, and for other construction-related careers between its founding in 1947 and its voluntary closing in 2015. The sale of its campus enabled a grant from the Institute to endow the IDC Foundation.

With these initiatives, the IDC Foundation continues and augments the extraordinary legacy of the Institute of Design and Construction. The Foundation now serves as an ongoing catalyst for innovation, firmly grounded in the Institute's steadfast devotion to the highest-quality education combined with industry experience. This annual report for 2019 illuminates the transformational impact that the IDC Foundation's initiatives are having.

IDC FOUNDATION HISTORY

Founded in 2015, the IDC Foundation is the legacy of the Institute of Design and Construction, which provided educational programs in fields relating to architectural design and building construction until that same year. The Foundation's funding was made possible by a grant from the Institute, following the sale of its downtown Brooklyn campus, to carry on its educational mission to provide training in those fields and create new avenues for learning that improve and add to understanding of practices in them.



The Institute of Design and Construction was founded in 1947 by Vito P. Battista, RA. Accredited by the New York State Board of Regents, it offered Associate degrees in Building Construction Technology and Architectural Design Technology as well as a variety of continuing and professional education courses. It constantly endeavored to provide the highest-quality education, grounded in industry experience without sacrificing personal attention to the student.

The purpose of the Institute was to serve the building construction industry by dedicating itself to programs of instruction that dealt with the real world of construction. Through that undertaking, the Institute prepared each student with a solid technical foundation as well as exposure to actual construction methodology and techniques in use by the industry. The experience gained at the Institute, in many cases, served as incentive for additional studies at four-year institutions.

Vito Battista was a first-generation Italian-American architect, who so passionately believed in providing others with the opportunity to have a better life through a career in architecture or building construction technologies that, while still in his 30s, he founded the Institute of Design and Construction. Born in Bari, Italy, he came to New York when he was three years old. As a teenager, he left high school to help his father run an ice business in the Bushwick section of Brooklyn. He then attended evening school before earning an architecture degree from Carnegie Institute of Technology, now Carnegie Mellon, and a Master's degree in architecture from MIT.

A practicing architect, he went on to become president of the Brooklyn Society of Architects and the Brooklyn chapter of the American Institute of Architects. He also served in the New York State Legislature from 1969 to 1975 as a Republican in the heavily Democratic borough.



GRANTMAKING ACTIVITIES SINCE 2018

In its first two years of grantmaking – 2018 and 2019 – the IDC Foundation provided grants totaling \$9.98 million to educational institutions in three areas of focus: (1) research and educational programs; (2) scholarships and fellowships to increase access to education; (3) educational experiences including travel. All grants were awarded to five institutions of higher education in Greater New York City:

COLUMBIA
GSAPP



Pratt



Grants for Research and Educational Programs

Grants totaling \$8.7 million were awarded to the five educational institutions to support research and educational programs relevant to the architectural design and building construction industry.

Grants to Increase Access to Education

Grants totaling \$980,000 were made to the five institutions to help undergraduate and graduate students – in fields relating to architecture, engineering, and building construction – to pay for their education.

Grants to Enhance Educational Experiences

Grants totaling \$300,000 were made to the five institutions to enhance the educational experiences, including travel, of undergraduate and graduate students in those same fields.

All grant awards are made directly to educational institutions and not to individual students. Those institutions determine which students will receive scholarships, fellowships, and/or other awards.

The IDC Foundation does not accept unsolicited proposals for funding from institutions.

WHAT THE GRANTS FOR RESEARCH AND EDUCATIONAL PROGRAMS HAVE MADE POSSIBLE

Columbia GSAPP – IDC Foundation funding made it possible to establish the IDC Foundation Professorship of Housing Design – the first endowed professorship dedicated to the Architecture program at Columbia – and to create the IDC Foundation Housing Research Fund to support a new interdisciplinary research initiative, the Columbia GSAPP Housing Lab. Acclaimed architect Hilary Sample is the inaugural IDC Foundation Professor of Housing Design. She has played an instrumental role in the oversight and development of the housing curriculum in the Master of Architecture program since her appointment as a full-time faculty member in 2011. The Columbia GSAPP Housing Lab has been initiated, and Dean Amale Andraos appointed Bernadette Baird-Zars, Urban Planning PhD Candidate, as the IDC Foundation Fellow who works with the Dean to coordinate the research efforts of the Housing Lab. In addition, Dean Andraos selected faculty members Daisy Ames and Adam Frampton to participate in its inaugural research projects. Two students from across programs at the School have also been appointed Research Assistants for the Lab, which has dedicated space in Fayerweather Hall to encourage collaboration.

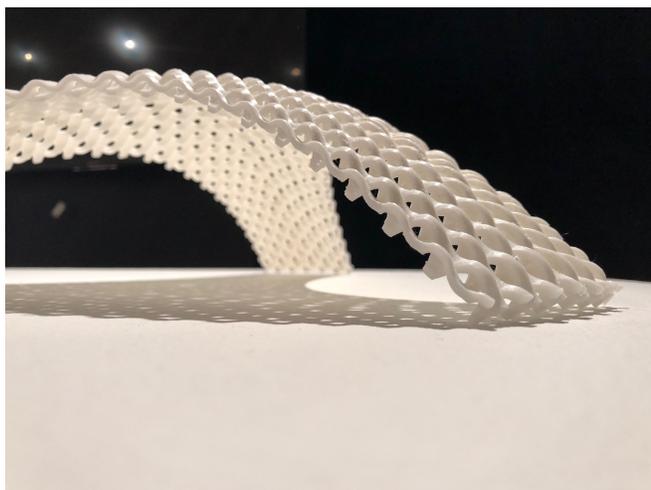


Photo Credit: NYIT

New York Institute of Technology – Funding from the IDC Foundation is enhancing the “culture of making” at the School of Architecture and Design (SOAD) by enabling faculty and students to explore synergies at the boundaries of architecture, medicine, and healthcare professions, as well as combine design thinking with advanced digital fabrication technologies and sophisticated equipment. Specifically, the funding has established an endowment to support the IDC Foundation Endowed Chair in Computational Technologies in SOAD, the first endowed chair at NYIT. It has also made possible the design and construction of the IDC Foundation Digital Fabrication Lab. The IDC Foundation Endowed Chair will oversee the creation

of two new Master of Science in Architecture degree programs with specializations in Computational Technologies and in Health and Design. These programs will foster collaborative and interdisciplinary efforts between SOAD, the College of Osteopathic Medicine, the School of Health Professions, and the School of Engineering and Computer Sciences. The IDC Foundation Lab will expand SOAD’s existing fabrication facility on the Long Island campus, providing more space and additional equipment. A robotics and 3D printing lab will be added to expose students to new and advanced technologies.

NYU Tandon School of Engineering – The IDC Foundation provided funding to enable the creation of the IDC Foundation Chair in Design and Construction in the Department of Civil and Urban Engineering. Dr. Michael Horodniceanu, PE, former president of MTA Capital Construction, holds the Chair and leads the IDC Innovation Hub, which also received funding from the IDC Foundation. The Hub is conducting programming and outreach activities that explore innovation at the intersection of architecture, engineering, and construction management, guided by industry leaders. With the support of Associate Director Judy Cooper, the Hub hosted two days of panels and discussions in May titled “Construction + Finance 2019” in partnership with Syracuse University’s Infrastructure Institute, the NYC Department of Design and Construction’s Town + Gown program, New York Law School, and AREA Research. In November, the IDC Innovation Hub held a forum on innovation in the construction industry at the NYC School Construction Authority. The event brought together more than 80 guests from all sectors of the construction industry.

Pratt Institute – Funding from the IDC Foundation has enabled the creation of the IDC Design Lab, a series of studio-based teaching initiatives that encourage innovation at the intersection of design and production technologies, addressing construction means, material use, and control of waste within larger environmental frameworks. Funding for the IDC Design Lab has provided an unrivaled vehicle to address the critical need for advanced, experience-based learning that enables undergraduate architecture students to develop further their research and entrepreneurial skills. Specifically, the Lab enables students to innovate by making prototypes with new building technologies and by facing real-world problems at full scale. The Lab’s goals include implementing experience-based learning, investigating and proposing emerging building systems and/or their elements, and disseminating measured outcomes. Its impacts address the environment, technology, socio-economic factors, and education. Specific areas of research include lightweight material fabrications, mass timber construction, affordable modular housing, and integrated solar thermal envelopes.

The Cooper Union – IDC Foundation funding is creating the IDC Foundation Art, Architecture, Construction, and Engineering (AACE) Lab at The Cooper Union for the Advancement of Science and Art to serve as a catalyst for integration across disciplines. Building on existing cross-disciplinary initiatives at The Cooper Union, each school’s strengths will be integrated around projects of “making” that create outcomes larger than the sum of the parts of any single discipline. The shared Lab will create a unique opportunity for students and faculty to engage with each other, formally and informally, advancing a culture of hands-on collaboration in an animated setting, teeming with tools, and designed to allow for the organic development of new ideas at the intersections of disciplines. New technologies in-house at The Cooper Union will position the faculty and deans to reimagine curricula and give students and faculty the tools they need to research new protocols of fabrication, test methods for optimization, and develop new materials and methods for practical design and construction applications.



Photo Credit: The Cooper Union

WHAT GRANTS FOR STUDENT EXPERIENCES MADE POSSIBLE IN 2019

Columbia University's Graduate School of Architecture, Planning and Preservation



Photo Credit: Columbia GSAPP

A group of 18 students and two faculty members traveled to Zurich, Switzerland in the summer to participate with other students and faculty from ETH Zurich in a workshop on the future of sustainable building technology. The workshop included hands-on exploration of a new foam building material made of recycled fly ash. During the workshop, students were able to assess the properties of the new material and its potential in large-scale casting and tiling. The students also surveyed the history of concrete casting in Switzerland, visiting significant architectural sites that have experimented with complex concrete casting.

New York Institute of Technology

Student travel stipends have supported the creation by students and faculty members of the first full-scale prototype of a Storm Center Module in response to emergency infrastructure core needs for water, sanitation, first aid, and communications in Puerto Rico during and after hurricanes. Students have participated in materials and product research to ensure that all specifications in the prototype would be low-cost and available off-the-shelf at local retailers in Puerto Rico. In January, students and faculty began construction of the prototype in Puerto Rico. Thesis-related travel has also included trips to Rio de Janeiro, China, and Amsterdam.

NYU Tandon School of Engineering



Photo Credit: NYU Tandon School of Engineering

Travel awards for 30 to 40 students supported university-approved and sponsored travel in civil engineering construction management, specifically participation of three student teams in regional and national competitions. The three teams are the ASCE Concrete Canoe Competition Team, AISC Steel Bridge Competition Team, and Associated Schools of Construction Student Competition Team. Foundation funds also support the activities of two clubs: the New York Water Environment Association and the Institute of Transportation Engineers.

Pratt Institute

With IDC Foundation funding, Pratt Institute was able to send a group of fourth-year undergraduate architecture students to study in Rome. The focus of this study-abroad trip was to allow students to explore and analyze the city's ancient and contemporary levels and public spaces. The trip emphasized drawing as a critical tool for analyzing and better understanding urban areas.

The Cooper Union

Twelve students were awarded travel stipends: eight for trips to Iceland to study the application of geothermal energy to heat soil at the University of Iceland, and four to Montpellier, France to build a structure for Montpellier's 14th Festival Des Architectures Vives. With the remaining funds, students traveled to professional domestic conferences to present their research, including the National Institute of Standards and Technology and the International Mechanical Engineering Congress Exposition. Through unique study-abroad programs and professional development opportunities, students gained new cultural insights that enhance their potential in their academic and professional pursuits.

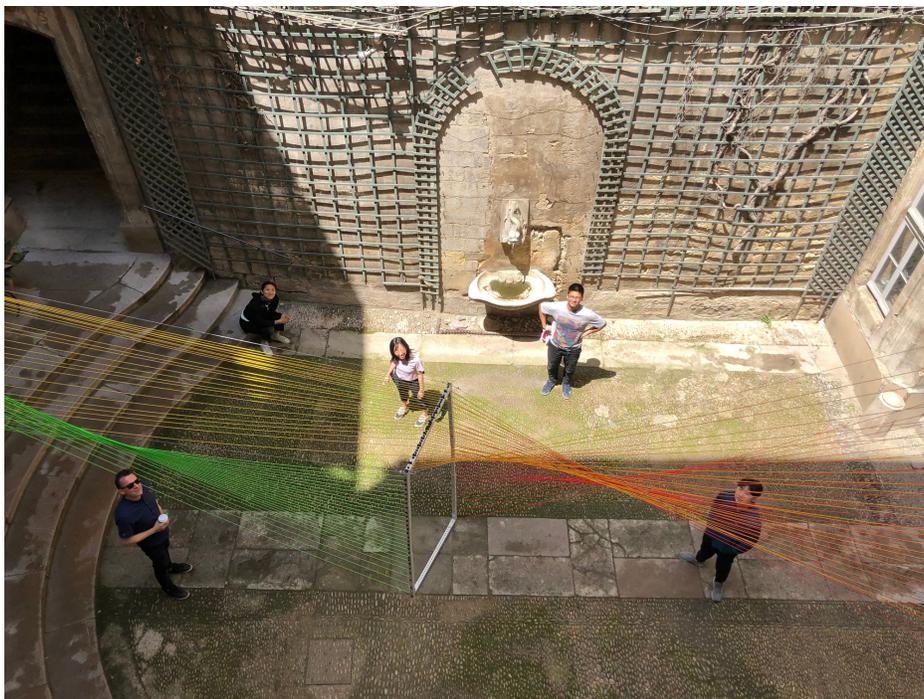


Photo Credit: The Cooper Union

WHAT GRANTS FOR ACCESS TO EDUCATION MADE POSSIBLE IN 2019

Columbia University's Graduate School of Architecture, Planning and Preservation

Dean Andraos appointed Bernadette Baird-Zars, Urban Planning PhD Candidate, as the IDC Foundation Fellow in the Columbia GSAPP Housing Lab. In this role, Bernadette works alongside the Dean to coordinate the research efforts of the Housing Lab. Two more IDC Foundation fellowships were awarded to Ashley Esparza '21M.Arch and Shakirat Onivangi '20 M.Arch/MSUP.

New York Institute of Technology

Twelve financial scholarships, 14 merit scholarships, and four graduate fellowships have been awarded. All have advanced the Institute's mission by providing access to opportunity for highly qualified students including those facing economic challenges.

NYU Tandon School of Engineering

Two IDC Foundation fellowships have been awarded: one to a second-year PhD student in Civil Engineering, who is developing an innovative mobile projected augmented reality (MPAR) method; the other to a first-year PhD student in Civil Engineering, who is focusing on facade inspection using natural language processing of inspection reports. The second-year student led a team including three other students in the AEC competition hosted by VINCI Construction, applying the MPAR system to real construction work.

Pratt Institute

Eight scholarships have been awarded: three for students majoring in construction management; three for students majoring in sustainable environmental systems, and two for students majoring in environmental planning. The assurances of financial security and fiscal votes of confidence in students' abilities conveyed through the IDC Foundation scholarships are helping attract and retain top students and allowing the students to engage fully in Pratt programs.

The Cooper Union

Twenty-nine architecture and engineering students with construction-adjacent research have been awarded tuition scholarships as IDC Foundation Scholars. Scholarship support is especially important to The Cooper Union's historical mission to provide accessible education, allowing students to focus on their studies and engage fully in academics, internships, clubs, and employment in their fields.

"By awarding me the IDC Foundation Scholarship, you have lightened my financial burden, which allows me to focus more on learning and preparing myself for future endeavors. I hope one day I will be able to help students achieve their goals just as you have helped me."

PANEL DISCUSSION

The IDC Foundation hosted a fascinating and thought-provoking panel discussion on “Innovations & Intersections: Architecture, Engineering & Building Construction,” featuring the five women who lead its grantee institutions. The event took place on the evening of November 5, 2019, at the Center for Architecture in New York City.

The five distinguished panel members were (shown left to right):

- Amale Andraos - Dean, Columbia University Graduate School of Architecture, Planning and Preservation
- Frances Bronet - President, Pratt Institute
- Laura Sparks - President, The Cooper Union for the Advancement of Science and Art
- Jelena Kovacevic - Dean, NYU Tandon School of Engineering
- Maria Perbellini - Dean, School of Architecture and Design, New York Institute of Technology.



The moderator of the discussion was IDC Foundation Board Member Carol Loewenson, Partner at Mitchell Giurgola Architects.





www.idcfoundation.org