Columbia Engineering

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It is a great pleasure to welcome you to the **Construction Engineering and Management Program** in the Department of Civil Engineering and Engineering Mechanics. The Construction Engineering and Management (CEM) Program has traditionally attracted students interested in the construction of capital facilities and infrastructure that provides the setting for human activity and supports worldwide community development. In recent years, we have increasingly seen students become interested in other aspects of the construction industry. By coursework grouping, students have been able to create focus areas within the program that respond to their professional development interests as well as industry needs.

Partners[▼]

Application[▼]

CEM: 610 S.W. Mudd Building, 500 West 120 Street, New York, NY 10027 Phone: +1 (212) 854-3143 Contact Us: <u>cem@columbia.edu</u>

Columbia Engineering

About 🔻



COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

CONSTRUCTION ENGINEERING & MANAGEMENT

Columbia Engineering

About *****



Interdisciplinary Emphasis characterizes the Construction Engineering and Management program. We have seen significant interest in areas such as real estate development, construction, and project finance, as well as strategic management, entrepreneurship, and leadership in engineering and construction companies. In addition, we have seen substantial interest in the industry for students who are well-informed in the use of technology and knowledgeable about sustainable construction. Our CEM Program supports all those interests by fostering meaningful dialogue across disciplines to shape the future of the construction industry.

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About *****

CEM Admission Statistics

Despite the impact of the COVID-19 pandemic, the **Construction Engineering & Management Program is more popular than ever!**

The current total of Fall 2021 accepted offers (62) and Fall 2020 deferrals to Fall 2021 (6) is 68. So we are expecting a sizable new cohort of incoming students.

Among the 2021 accepted offers there were twenty-two applicants who were citizens of India. This compares with fifteen citizens of India accepting an offer of admission in 2019 and six in 2020. The situation with applications from China is not currently equivalent, perhaps as a function of lingering visa challenges.

US citizens accepting offers in 2021 numbered. In 2019 only four accepted the offer. During 2020 this number had dropped to two acceptances.

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CEM Career Placement Data

CEM Placement Data (2021)

% for whom data is known: 80% % Employed: 90% % Furthering Education: 10% % who completed internship: 65% Average Salary: \$70,300

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About *****

CEM Career Placement Data

Industry Areas of 2021 Graduates

Construction Management Construction Technology Government Management Consulting Manufacturing & Construction Real Estate

About *****

CEM Career Placement Data

Companies that hired 2021 CEM Grads for jobs and internships

AECOM Central Interiors, Inc. China No.4 Railway Architecture China State Construction (CSEC) Constrafor DACK Consulting Services EnTech Engineering Gannett Fleming Gemdale Real Estate Development Gordon Prill, Inc. Greentown Real Estate Group Jafri Capital

JD Group KSK Construction Group LEGO Construction Inc. Manhattanville Development Ryder Construction Inc. SCG America Group Inc. Sovereign Real Estate Suffolk County Water Authority The CARIAN Group The Strauss Group Xin Cheng Real Estate Development ZDG LLC

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About *****

CEM Career Placement Data

Position Titles of 2021 CEM Graduates

Assistant Project Manager Associate Project Manager **Customer Success Specialist Deputy Director of Construction Maintenance Deputy Project Manager Estimating Assistant** Executive Project Manager Investment Analyst Junior Estimator Office Engineer Project Controls Engineer **Project Engineer** Project Manager **Project Planning Engineer**

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About *****

CEM Industry Event Participants

Networking Events:

AECOM **Dragados USA** EnTech Engineering Ferzan Company LLC Group Pmx Monadnock Construction Plaza Construction **SBI** Consultants Shawmut Design and Construction Silverstein Properties STV Turner and Townsend **Turner** Construction **VJ** Associates

Info Sessions and Panels:

Al Engineers **EnTech Engineering** Integrare Monadnock Mott MacDonald Plaza Construction **Related Companies** Shawmut Skanska STV Tesla (facilities) Turner and Townsend **Turner Construction**

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Program▼



COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

CONSTRUCTION ENGINEERING & MANAGEMENT

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Program▼



The CEM Program prepares students **for future leadership** roles in private sector engineering and construction management firms and positions leading public sector agencies. The program is reinforced by linkage to some of the major international firms based in New York City, who provide employment opportunities and the benefit of case study experience. Many of these firms are international in scope, with offices located in many large cities throughout the world. Countries represented among CEM students in recent years include: Australia, Azerbaijan, Bolivia, Canada, China, Dominican Republic, France, Georgia, Ghana, Greece, India, Indonesia, Iran, Italy, Japan, Kuwait, Lebanon, Mexico, Morocco, Myanmar, Peru, Russia, Saudi Arabia, Singapore, Taiwan, Thailand, Turkey, Venezuela, and the U.S.

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People[▼]



Columbia Engineering

People[▼]



All institutions, both academic and professional, are only as good as the **people** they attract, animate, and motivate. The Construction Engineering Management Program at Columbia University's Fu Foundation School of Engineering and Applied Science benefits from recruiting the best and brightest students from around the world. The school also takes pride in having an engaged and distinguished faculty. On-campus professors conduct industry-shaping research, joined by adjunct professors coming from some of the leading NYC-based engineering and construction firms.

Columbia Engineering

People



Feniosky A. Peña-Mora, Sc.D., is the Edwin Howard Armstrong Professor of Civil Engineering and Engineering Mechanics, Professor of Earth and Environmental Engineering, and Professor of Computer Science at the Fu Foundataion School of Engineering and Applied Science. He focuses on information technology support for collaboration physical infrastructures. He also is a leader in change management, conflict resolution, sustainable construction, and processes integration during the design and development of large-scale civil engineering systems. Information technology support for collaboration in preparedness, response and recovery during disasters involving critical physical infrastructures; change management, conflict resolution, sustainable construction, visualization, augmented reality. Peña-Mora is the author or co-author of more than 180 scholarly publications and holds five patents and two provisional patents.

For full bio and research interests see:

https://www.engineering.columbia.edu/faculty/feniosky-pena-mora

Columbia Engineering

People[▼]



Ibrahim S. Odeh, PhD, MBA, Lecturer of Civil Engineering and Engineering Mechanics, is the Founding Director of the Global Leaders in Construction Management (GLCM) Program at the Fu Foundation School of Engineering and Applied Science. He focuses his studies and research on assisting construction firms with strategic management assignments in areas related to: strategy and business development; infrastructure and construction market analysis; market entry strategy; and trends affecting the future of the construction market. The result of his work helped several companies in the decisionmaking processes to enter new geographical locations, expand to new markets, build new units within the same institutions, and differentiate firms during pre-bidding process on mega projects.

For full bio and research interests see: https://www.engineering.columbia.edu/faculty/ibrahim-odeh

Columbia Engineering

People[▼]



Julius Chang, Eng.Sc.D., Lecturer in Civil Engineering at the Fu Foundation School of Engineering and Applied Science, currently teaches graduate and undergraduate courses in construction engineering and management, and an associate at HDR, a leading consulting engineering firm. Chang has over 25 years of practical work experience in the design and management of transportation infrastructures facilities. His research interests concern infrastructure asset management and innovative project delivery methods, including public-private partnerships (PPP). Chang is a registered professional engineer in the State of New York.

For full bio and research interests see: <u>https://www.engineering.columbia.edu/faculty/Julius-chang</u>

Columbia Engineering

People[▼]



Rick Bell, FAIA, Adjunct Associate Professor at the Fu Foundation School of Engineering and Applied Science, serves as Deputy Director of the Center for Buildings, Infrastructure and Public Space. He teaches in the CBIPS graduate research program concentrating on the connection of physical and social infrastructure to urban design and social equity. Bell previously served as Executive Director of Design and Construction Excellence at the NYC Department of Design and Construction where he was also Assistant Commissioner of Architecture and Engineering. On leave from DDC, Bell served as Executive Director of AIA New York and the Center for Architecture. Bell is a registered architect in the State of New York and a Fellow of the American Institute of Architects.

For full bio and research interests see: <u>https://cbips.engineering.columbia.edu/people/rick-bell</u>

Columbia Engineering

People[▼]



Scott T. Kelly, is the Graduate Admissions and Student Affairs Officer at the Fu Foundation School of Engineering and Applied Science of Columbia University where he has worked since September of 2005. He previously worked as Assistant to the Director of the American Irish Historical Society. Scott holds a Master of Arts in Higher and Postsecondary Education conferred by Teachers College of Columbia University. His undergraduate degree, from Bates College, is a BA in History. Scott's position involves event planning, outreach volunteer and project management, employee recruiting, team building and strategic planning. He uses his skills and extensive knowledge of university resources to help students achieve their academic and professional goals.

For additional information see: <u>https://www.engineering.columbia.edu/scott-kelly</u>

Columbia Engineering

People[▼]



Emily-Anne McCormack, is the Associate Director of Career Placement in the Department of Civil and Mechanical Engineeriing at the Fu Foundation School of Engineering and Applied Science of Columbia University where she has worked since October of 2016. She previously worked as a Career Advisor at The Art Institutes. Emily received a Bachelor's degree in Psychology and Communications from Hofstra University. Scott's position involves educational advising event management and training. She uses her skills to help and motivate others, and to identify opportunities to improve organizational efficiency. She has served as an event volunteer at the World Science Festival in 2018 and is currently volunteers as an Ambassador at the New York Build Expo.

For additional information see: <u>https://www.engineering.columbia.edu/emily-anne-mccormack</u>

Columbia Engineering

Courses▼



COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

CONSTRUCTION ENGINEERING & MANAGEMENT

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Courses▼

Approximately half of the 2021 students in the Department of Civil Engineering and Engineering Mechanics focus on construction management and courses are designed with that in mind. The breakdown of CEM student areas of interest when they apply to our program are: General Construction/Project Managements (76% of students); Real Estate Development (18% of students); Urban Sustainability (4% of students); and Management Consulting (2% of students). However, when students come to Columbia's School of Engineering and Applied Science, their horizons broaden, and they become more open to many additional areas within the field. Among the building and infrastructure subjects are project finance, strategic management, entrepreneurship, leadership, data analytics, and information modeling.

Columbia Engineering

Courses▼

Master of Science Degree Program

The Department of Civil Engineering and Engineering Mechanics offers a graduate program leading to the degree of Master of Science (M.S.) in Civil Engineering and Engineering Mechanics. The Master of Science degree is awarded upon the satisfactory completion of a minimum of 30 pojnts of credit of approved graduate study extending over at least two semesters. The M.S. program is very flexible and includes a concentration in Construction Engineering and Management. There are no required courses at the M.S. level. Every student is assigned a faculty member as an academic advisor. Student and adviser meet regularly and plan together the sequence of courses that best fit the student's interests. While a suitable M.S. program will necessarily entail some degree of specialization, the program of study established between the student and the adviser should be well balanced, including basic subjects of broad importance as well as theory and applications. Students may take graduate-level courses from across various concentrations within the department



Columbia Engineering

Courses▼

Course List for Construction Engineering and Management (CEM)

MS Core Classes

CIEN E4131x and y Principles of Construction Techniques (Fall 2021) CIEN E4133x Capital Facility Planning and Financing (Spring 2022) CIEN E4137y Managing Civil Infrastructure Systems (Fall 2022)

Construction Engineering Management Classes CIEN E4129x Managing Engineering and Construction Systems (Fall 2021) CIEN E4131x Principles of Construction Techniques (Fall 2021) CIEN E4140x Environmental, Health & Safety Concepts in Construction (Fall 2021)

Real Estate Development, Construction, and Finance Classes

CIEN 4132x Prevention and Resolution of Construction Disputes (Fall 2021) CIEN 4141y Public-Private Partnerships in Global Infra Development (Spring 2022) CIEN 4144x Real Estate Land Development Engineering (Fall 2022)

Construction Strategic Management and Leadership Classes

CIEN E4135y Strategic Management in Engineering and Construction (Spring 2022) CIEN E4136y Entrepreneurship in Engineering and Construction (Spring 2022) CIEN E4142x International Construction Management: Theory & Practice (Fall 2022)

Extra Technical Elective

CIEN E4133x Capital Facility Planning and Financing (Fall 2021)

Columbia Engineering

Courses[▼]

Elective Specialization 1: Construction Engineering and Management (CEM)

The Construction Engineering and Management elective specialization prepares students to effectively deliver and manage the capital facilities and infrastructure that provide the setting for human activity and support worldwide economic development. It emphasizes current methods of construction, cost-effective designs, maintenance, and creating safe work environments. It covers a wide range of systems that support construction and operations, such as excavation support, earth retention, temporary supports and underpinning, concrete formwork and shorting, cranes and erection systems, and tunneling, as well as instrumentation and monitoring systems. This elective specialization also provides a comprehensive understanding of modern environmental health and safety management techniques, and theories that improve safe work environments. These ultimately enhance processes and performance in construction projects.

Columbia Engineering

Courses[▼]

Elective Specialization 1: Construction Engineering and Management (CEM)

Students interested in **Elective Specialization 1** are advised to take the following four courses:

- 1. CIEN E4129 Managing Engineering and Construction Processes
- 2. CIEN E4130 Design of Construction Systems
- 3. CIEN E4131 Principles of Construction Techniques

4. CIEN E4140 Environmental, Health and Safety in Construction

Columbia Engineering

Courses[▼]

Elective Specialization 2: Real Estate Development, Construction and Project Finance (RCF) The **Real Estate Development, Construction & Project Finance** elective specialization prepares students to effectively finance, engineer, and construct real estate developments. It introduces the following topics:

- Financial mechanics of real-estate development and management, from the basics of real-estate accounting and finance, to in-depth analysis of life-cycle cost estimation and decision-making, financial risks analysis and mitigation, and capital markets and their financing roles.
- Design of project delivery systems to encourage best value, innovation, and private sector participation. Understanding of private, public, and public-private partnership projects and their financial structures.
- Planning and financing of capital facilities with a strong emphasis on civil infrastructure systems from perspectives of developers, investors, and taxpayers. Both U.S. and international practices are covered.
- Fundamentals of land development and engineering economics, including environmental, institutional, social, and political factors.
- Case studies from major infrastructure sectors that provide comparisons of both U.S. and international best practices.

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Courses▼

Elective Specialization 2: Real Estate Development, Construction, and Project Finance (RCF) Students interested in **Elective Specialization 2** are advised to take the following four courses:

1. CIEN E4138 Real Estate Finance / Construction Management

2. CIEN E4141 Public-Private Partnerships in Global Infrastructure

3. CIEN E4144 Real Estate Land Development Engineering

4. CIEN E4132 Prevention Resolution of Construction Disputes

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Courses▼

Elective Specialization 3: Strategic Management, Entrepreneurship, and Leadership in Engineering and Construction n Engineering and Organizations (SEL) The Strategic Management, Entrepreneurship and Leadership in Engineering and Construction Organizations elective specialization prepares students to effectively lead the identification and implementation of strategic directions for entrepreneurial engineering and construction organizations. It focuses on the following topics:

- Strategic Management introduces core concepts of strategic planning and modeling and information technology strategies, as well as analysis and trends within the engineering and construction industry.
- Entrepreneurship introduces strategies and business plans for new enterprises in the engineering and construction industry. It involves the full entrepreneurship process: identification of market segments, development of entry strategies, financing, and organizational design.
- Leadership: Students interact with industry leaders, engaging in term projects and developing profiles of influential leaders, and are immersed in practical situations using industry case studies, which helps to master comprehensive tools, concepts, and analytical frameworks for analyzing and addressing leadership challenges.

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Courses▼

Elective Specialization 3: Strategic Management, Entrepreneurship, and Leadership in Engineering and Construction n Engineering and Management (SEL)

Students interested in **Elective Specialization 3** are advised to take the following four courses:

- 1. CIEN E4135 Strategic Management in Engineering and Construction
- 2. CIEN E4136 Entrepreneurship in Engineering and Construction
- 3. CIEN E6132 Leadership in Engineering and Construction
- 4. CIEN E4142 International Construction Management

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Research▼



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Research▼

Research within the four broad areas of specialization of the Construction Engineering Management Program is encouraged, particularly in relation to case studies available through coursework and partnerships with industry firms and public agencies. With more than 76% of CEM students specializing in General Construction/Project Management, considerable attention is paid to research that benefits construction processes and procedures, and management means and methodologies. Issues of new ways of building, from prefabrication to 3D printing, are part of the equation. So, too, are the applications of fast-changing improvements in Information Technology along with Data Visualization and Data Analytics.

Columbia Engineering

Center for Buildings, Infrastructure and Public Space (CBIPS)

Research[▼]

The **Center for Buildings, Infrastructure and Public Space** is a highly selective research group within the CEM Program of the Department of Civil Engineering and Engineering Mechanics. CBIPS seeks to identify how to best design, construct, and manage buildings, infrastructure, and civic spaces, emphasizing social impact, sustainability, and resilience, in addition to cost, schedule, quality, and safety. It brings together motivated graduate students, committed faculty members, recent School of Engineering alumni, and a distinguished Board of Advisors to search for ways to create and connect legacy buildings, needed infrastructure and planned development to improve the quality of life for all.

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Global Leadership in Construction Management (GLCM)

Research[▼]

The **Global Leadership in Construction Management**, a Strategic Management Research Initiative founded in 2011, focuses on studying strategic management topics that assist engineering and construction firms to ascertain trends shaping the way we do business and deliver construction and infrastructure projects nationally and internationally. Research areas include: market analysis; sustainability; generational differences; learning from other industries; project delivery methods; and technological trends. Bridging between theory and practice involves learning outside the campus, with winter break field studies in Saudi Arabia (2012), Turkey (2013), Qatar (2014), UAE (2015 and 2017), Malaysia (2016), Thailand (2018), and India (2019).

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Application▼


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Application[▼]

Columbia Engineering offers you the opportunity to become a leader in your chosen profession, learning form professors shaping the world of tomorrow. Columbia Engineering is committed to an open and welcoming community for all students, faculty, researchers, and staff. The engineering school is proud of its diverse community, and our collective commitment to maintaining an open and collegial environment. Consideration for admission will be based not only on the completion of earlier courses of study, but also upon the quality of the record presented and upon such evidence in the **application** as can be obtained concerning the candidate's qualifications to pursue professional work.

Columbia Engineering

Application[▼]

The Fu Foundation School of Engineering and Applied Science is in **New York City**, the largest and most dynamic metropolis in the U.S. Our city is home to the world's most successful and impactful engineering and construction management firms in the world. New York, and New Yorkers, embody diversity, entrepreneurship, and an unbridled enthusiasm for technological progress. Columbia is located in Washington Heights on Manhattan's West Side, a neighborhood of quiet parks, decent housing, and culinary choice. It is said that many life decisions start with "location, location, location." Columbia Engineering brings you to the center of the action.

Why New York

Columbia Engineering

Application[▼]

With a neo-classical campus designed by McKim Mead & White, the quintessential New York Beaux-Arts architects, the 116th Street **Columbia University** campus offers an academic setting that provides both green lawns and paved courts for seating and outdoor discussion. The master plan, commissioned in 1904, features a south-facing grand stair outside the landmark Low Library administrative building. The stair becomes a focal point for informal interaction and encounter. Modern buildings by Rafael Viñoly and Rafael Moneo complement the traditional formality of the earlier structures. A sense of protection and connection prevails, with an entrance on 116th Street, adjacent to the subway station.

Why Columbia

Columbia Engineering

Application[▼]

The issues that are redefining engineering study and practice range from new techniques to address the challenges of climate change and extreme weather, to cyber threats. Opportunities to create attractive, active, and calming buildings and public space that relate to new and restored infrastructure require a different and more interdisciplinary approach. Construction management techniques and construction technology skills enable the next generation of **Construction Engineering & Management** graduate students to bring their intelligence, work ethic, and international backgrounds to bear upon the related issues of security, sustainability, healthfulness, connectivity, and creativity, and, in so doing, use engineering acumen for the benefit of humanity.

Why CEM

Columbia Engineering

Application[▼]

Requirements for Admission

The basic **requirement for admission** as a graduate student is a bachelor's degree received from an institution of acceptable standing. Ordinarily, the applicant will have majored in civil engineering, but our program welcomes students from construction management, mechanical engineering, and architecture programs. Other fields related to engineering or science are also acceptable. The applicant will be admitted if the undergraduate record shows promise of productive and effective graduate work. An MS degree is required for admission to the Ph.D. and Eng.Sc.D. programs. Students who hold an appropriate bachelor's degree may apply to either the MS or the MS leading to Ph.D./Eng.Sc.D..

Link <u>here</u> for application requirements

Columbia Engineering

Application[▼]

Application Materials and FAQ The following **application materials** must accompany the online form for graduate admission:

- Official transcript copies from each post-secondary institution attended
- Three recommendation letters
- Standardized Tests: Official Graduate Record Examination (GRE), General Test Scores, TOEFL, IELTS, or PTE, if applicable
- Personal statement
- Resumé or Curriculum Vitae
- An interview may be requested
- \$85 non-refundable application fee

Frequently asked questions are in the general categories of the application process, financial aid, standardized test scores, and transcripts. If you have questions about these subjects or any other aspects of the application requirements, please visit the FAQ.

Link here for online application, and here to visit our FAQ

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Partners▼



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Partners▼

One difference between professional programs and other graduate courses of study comes from the **link and partnerships** to the profession, and to the development of skills and aptitudes that ease the transition into post-graduate employment. The CEM Program is committed to that overarching goal, providing the high-quality academic base and the research technique training that propel graduates into rewarding positions. Columbia benefits from having many alumni on campus, as adjuncts or visiting for other types of interactive events. Communications between students and alumni are frequent, positive, and purposeful, being based on case study analysis or the solution to real-world problems and challenges.

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Partners▼

Connection to the construction and engineering industry is accomplished by three means: information sessions, networking events, and industry panels. Information sessions bring together students and firms to discuss current projects, anticipated priorities, and career possibilities. Networking events are more social in nature and allow for casual conversation and getting acquainted with firm leaders and CEM alumni, potentially leading to future employment. Industry panels are content focused and generate discussions about some of the key issues facing engineers in the construction industry. Many firms, large and small, participate, including, Mott MacDonald, Skanska, STV, and Turner Construction, among others.

Industry Connection

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Employment Post-graduation

Partners▼

Recent CEM Program graduates are now are part of many of the leading firms in New York City and the world, including AECOM, Entech, KSK, NY Developers, Plaza Construction, SBI, Skanska, Turner, and Turner & Townsend. Their **starting job titles** range from: graduate engineer, assistant project manager, field engineer, deputy project engineer, and project engineer, to project analyst, cost consultant, cost engineer, and BIM engineer, among many others. The value of the CEM professional degree has been demonstrated not only in terms of the types of firms and positions selected, but in the range of choices available and starting salaries.

Columbia Engineering

Calendar▼



Upcoming events in the program and department are regularly posted approximately one month in advance.

Key dates for the 2021-2022 academic year

- Thursday, 9 September 2021: Fall Semester start of classes
- Monday, 13 December 2021: Fall Semester last day of classes
- Tuesday, 14 December Thursday, 23 December: Study and Exams
- Tuesday, 18 January 2022: Spring Semester start of classes
- Monday, 14 March Friday, 18 March: Spring Break
- Monday, 2 May 2022: Spring Semester last day of classes
- Tuesday, 3 May Friday, 13 May 2022: Reading and Exam Days
- Friday, 13 May 2022: Spring Semester ends
- Wednesday, 18 May 2022: Commencement

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Calendar▼

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Services[▼]



Columbia is proud of the **services** it provides to students, both during their time on campus and in respect to internships and post-graduate employment off campus. One key aspect of welcoming students to the CEM Program is offering advice on housing opportunities. We have increased our efforts to increase both formal and informal communications in regard to apartment sharing and other housing possibilities. Methods of engagement with the industry include panel discussions followed by a networking reception, student/alumni networking events, speed networking events, information sessions involving potential employers, educational site visits, and companyhosted tech talks and software workshops featuring new technologies.

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Services[▼]

Student Services

Services provided to students include faculty advising, navigation of the department and university policies, and social events. Incoming students are matched to faculty advisors before they arrive on campus and are provided with preliminary advice on the selection of courses. Students meet with faculty advisors before the start of classes. The dialogue with an advisor helps to navigate the way in which course content relates to the student's professional goals. In addition, cross-registration for courses in other departments is part of this interchange to help in creating a customized interdisciplinary curriculum. Social events include the department's annual picnic and various informal get-togethers.

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Services▼

Student Services

Services provided to students (overview):

- Shadowing program
- Industry Panels Large panel event, typically followed by networking
- Student/Alumni Networking Events
- Speed-networking Event Well-received!
- Info Sessions _ Employer branding and recruiting
- Site Visits Educational and/or for employer branding and recruiting
- Tech Talks Educational events hosted by companies
- Software Workshops Educational events featuring new technology



Services[▼]

CEM Companies



Turner skanska

Turner & Townsend

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Library▼

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Welcome to the Center for Buildings, Infrastructure and Public Space. The CBIPS seeks to identify how best to design, construct, and manage buildings, infrastructure, and civic spaces, emphasizing social impact, sustainability, and resilience, in addition to cost, schedule, quality, and safety. The Fellowship Program of the Center for Buildings, Infrastructure and Public Space brings together motivated graduate students, committed faculty members, recent School of Engineering alumni, and a distinguished Board of Advisors to search for ways to create and connect legacy buildings, needed infrastructure, and planned development to improve the quality of life for all.

Partners[▼]

Practicum[▼]

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Program▼



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During the first semester there will be 16 weeks of intense class sessions, site visits, and lectures with design and construction industry professionals. Classes and guest lectures will take place in the CBIPS Studio Lab on the 7th floor of Columbia's Seeley W. Mudd Building, and the four site visits – one each month from September through December – will bring students to building and infrastructure sites throughout New York City. The 17-week second semester will see an equivalent program of classes, discussions, lectures, and site visits. During the pandemic lockdown, virtual meetings by Zoom have changed methods of sharing ideas. For the 2021-22 academic year, on campus instruction, site visits and field study will resume.

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Program[▼] Field Study



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Program[▼] Field Study



A defining characteristic of the first two academic years of the CBIPS program was national and international **field study** that allowed for site visits and office meetings during winter and spring breaks, augmenting the New York City construction site visits and meetings with engineering and construction management professionals here. CBIPS Fellows benefited from intense week-long field study in cities including **Paris, Los Angeles, and London**. For the 2021-22 academic year, after the interruption of the COVID-19 travel restrictions, field study will resume. Infrastructure, buildings and public space will be analyzed in two cities:

MADRID (last week of winter break): 9 - 15 January 2022 CHICAGO (spring break): 13 - 19 March 2022

Field study is an integral part of the CBIPS curriculum and is required.

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Program▼ Field Study ► Paris



Paris, the City of Light, has benefitted from progressive leadership that has literally "reinvented" many aspects of the metropolis, from access to the Seine river waterfront to a reconsideration of the identity and environmental characteristics of one of the tallest and most-reviled building in Europe. Nine Fellows of the CBIPS inaugural year met with principals of leading architectural firms, and with Deputy Mayor Jean-Louis Missika, in charge of architecture, urbanism, and economic development. Fellows were particularly interested in the technics of the Paris-Saclay site, where we met with members of the design and construction team.

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Program[▼] Field Study ► Los Angeles



Los Angeles is the second largest city in the U.S. Like New York City, it is facing the challenges of demographic change, rapid growth, transit system expansion, and an extensive homeless population. During a one-week study tour during the 2019 spring semester break, 13 Fellows met with Los Angeles engineers, architects, construction managers, client agencies, and elected officials. Site visits allowed for detailed discussions about projects and policies, including: the new Olympic Stadium; the expansion of the Los Angeles County Museum; the growth of the Port of Long Beach as container ship size changes; and affordable housing in Santa Monica.

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Program[▼] Field Study ► London



For the 2019-2020 academic year, the international field study took place during the last eight days of the three-week winter break. Site visits and meetings in **London** followed the research agenda of this year's CBIPS Fellows. We visited significant transit sites, including those of Crossrail. We analyzed the cultural re-use of the East London Olympic site, and visited innovative social housing locations, such as public housing estates where Passive House methodologies have been used. Meetings with municipal government leaders, leaders of various professional organizations, and design and construction professionals complemented the site visits.

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Program[▼] Site Visits → Hudson Yards Subway Station



The majority of Fellows are new to New York, having come from all over the world to pursue graduate studies. As part of the academic research initiative, strategically selected site visits to important building or infrastructure locations take place with either the client or project principal present to explain decisions made. CBIPS Fellows in the 2018-19 academic year met on site with Richard Dattner, the architect of the **Hudson Yards subway station**; with James Garrison, the architect of the OEM Post-Disaster Emergency Housing prototype; and with Lissa So, the architect of the St. Ann's Warehouse theater renovation in Brooklyn Bridge Park.

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Program[▼] Site Visits → OEM Post-Disaster Emergency Housing Prototype



The majority of Fellows are new to New York, having come from all over the world to pursue graduate studies. As part of the academic research initiative, strategically selected site visits to important building or infrastructure locations take place with either the client or project principal present to explain decisions made. CBIPS Fellows in the 2018-19 academic year met on site with Richard Dattner, the architect of the Hudson Yards subway station; with James Garrison, the architect of the **OEM Post-Disaster Emergency Housing prototype;** and with Lissa So, the architect of the St. Ann's Warehouse theater renovation in Brooklyn Bridge Park.

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Program[▼] Site Visits ► Brooklyn Bridge Park



The majority of Fellows are new to New York, having come from all over the world to pursue graduate studies. As part of the academic research initiative, strategically selected site visits to important building or infrastructure locations take place with either the client or project principal present to explain decisions made. CBIPS Fellows in the 2018-19 academic year met on site with Richard Dattner, the architect of the Hudson Yards subway station; with James Garrison, the architect of the OEM Post-Disaster Emergency Housing prototype; and with Lissa So, the architect of the St. Ann's Warehouse theater renovation in **Brooklyn Bridge Park**.

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Program▼ Site Visits ► Plaza de las Americas



The CBIPS Fellows benefited from a walking tour of Washington Heights and Inwood led by NYC Council Member Ydanis Rodriguez. The site visit started at the **Plaza de las Americas**, a project led b y the NYC Department of Design and Construction and the NYC Department of Transportation, that transformed a public street into a public plaza with a permanent green market. Managed by the Washington Heights Development Corporation, a community group dedicated to neighborhood economic empowerment, the project included a Percent for Art project called "The Source" that allows for washing of fruits and vegetables from the market in place.

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Program[▼] Site Visits → Javits Center



Thanks to the efforts of CBIPS Advisory Board Co-Chair Marcos Diaz-Gonzalez, CBIPS Fellows benefited from numerous visits to active construction sites during the 2019-20 academic year. One of these was to see the progress of work at the **Jacob K. Javits Convention Center expansion project.** The CBIPS Fellows met with Steven Sommer, the Lendlease Senior Vice President and Principal-in-Charge responsible for the work. Fellows learned about the project's scope and history, challenges and problems, condition, financing, security, and accessibility issues. Sommer's advice: "You need to be prepared to jump at opportunities as they arise because opportunities don't come along very often."

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People▼



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People[▼]



The Center for Buildings, Infrastructure and Public Space brings together student Fellows, Columbia Engineering professors, recent alumni and distinguished adjunct faculty to analyze and discuss the key challenges of the day. With theorists and practitioners in the same room the means by which problems can be addressed and solutions implemented becomes palpable and pragmatic. The CBIPS Advisory Board consists of engineering and construction industry leaders from both the private sector and public realm. Interactions with alumni help foster the connection between coursework and research projects and an understanding of the needs of the workplace.

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People[▼]



Feniosky Peña-Mora is the Edwin Howard Armstrong Professor of Civil Engineering and Engineering Mechanics, Professor of Earth and Environmental Engineering, and Professor of Computer Science at Columbia University. He also directs the Center for Buildings, Infrastructure and Public Space at Columbia. From 2014 to 2017, he was on a public service leave serving in Mayor Bill de Blasio's administration as Commissioner of New York City's Department of Design and Construction (DDC). There, he was responsible for over 1,200 projects valued in excess of \$15 billion, undertaken by more than 1,400 workers and 1,320 consultants. Under his leadership, more than 860 construction projects, valued at more than \$9 billion, started or completed. The agency also committed more than \$5.4 billion in new contracts by improving the capital project procurement process. The agency received more than 80 design and professional awards. Each one of these accomplishments was a record for DDC. Prior to his public service leave at DDC, he was the Dean of the Fu Foundation School of Engineering and Applied Sciences and Morris A. and Alma Schapiro Professor of Engineering at Columbia University. In this post, he was responsible for setting the school's strategic direction and managing its operation and growth to over \$400 million in endowments, a \$200 million annual operating budget, 4,500 students, and 400 staff and faculty members. He has also served as Associate Provost and the Edward William and Jane Marr Gutgsell Endowed Professor at the University of Illinois at Urbana-Champaign. In this position, Prof. Peña-Mora led the university's Interdisciplinary, Diversity, and Entrepreneurial Initiatives.

Columbia Engineering

People[▼]



Rick Bell most recently served (2015-2018) as Executive Director of Design and Construction Excellence at the New York City Department of Design and Construction. Among his responsibilities at DDC were strategic planning for design and construction excellence initiatives, including the creation of the agency's Guiding Principles for Design and Construction Excellence. At DDC since its creation twenty-five years ago, Rick previously was Director of In-House Design, supervising a team of 50 engineers and architects, and was Assistant Commissioner of Architecture and Engineering. On leave from DDC, Rick served as Executive Director of the New York Chapter of the American Institute of Architects and the Center for Architecture (2001-2015). He was instrumental in establishing and animating the Center for Architecture on LaGuardia Place. At AIANY he created programs, publications, and exhibitions on diverse topics including active design, affordable housing, building material innovation, sustainable buildings and infrastructure, and transit-oriented development. Rick also was an architect and partner at Warner Burns Toan Lunde Architects & Planners (1979-1994) where he was chief of the studio designing libraries, public schools and university structures nationwide.
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Co-moderator: 5/12 Co-moderator: 5/19 Richard T. Anderson Marcos Díaz González RTA Advisors; Past Senior Vice President President, NYBC AECOM

Co-moderator: 5/26 Jan Tuchman Editor-in-Chief ENR

Lectures COVID-19 Impact on the AEC Industry

Last year CBIPS organized a lecture series that addressed past, current, and future initiatives, constraints, and budgets arising from AEC Industry experiences from COVID-19. Weekly programs took place every Tuesday from 12 PM to 1 PM EST, via Zoom, from May into September 2020. Speakers from Wuhan, Seoul, São Paulo, Paris, Los Angeles, London, Chicago and New York addressed how the COVID-19 response has helped assure health and safety. They have spoke of new ways of interacting, new ways of learning, new ways of working, sharing knowledge, assumptions, aspirations, and anxieties. Industry thought leaders, from principal engineering, architectural, and construction management firms, along with government officials and major asset owners, provided candid analyses of how essential buildings and necessary infrastructure will adapt to a world turned upside down by new needs and new perspectives.



Speaker: 5/12 Tom Foley Dep. Commissioner NYC DDC



Speaker: 5/19 Eric Macfarlane Dep. Commissioner NYC DDC



Speaker: 5/26 Daniel Zarrilli **OneNYC Director** NYC Mayor's Office



Cris Liban **Chief Sustainability** Principal, ARO Officer, LA Metro President, AIANY



Speaker: 6/16 Catherine Barbé Director, Partnerships Société du Grand Paris



RTA Advisors; Past President, NYBC

Co-moderator: 5/12 Co-moderator: 5/19 Richard T. Anderson Marcos Díaz González Senior Vice President AECOM



Co-moderator: 5/26 Jan Tuchman Editor-in-Chief ENR

Co-moderator: 6/2 Benjamin Prosky **Executive Director** AIANY and CfA



Co-moderator: 6/9 Tom Smith **Executive Director** ASCE



Co-moderator: 6/16 Marilisa Stigliano Director of Operations AECOM

Center for Buildings, Infrastructure and Public Space

Lectures on COVID-19 Impact on AEC Industry



Speaker: 6/23 Deborah Weintraub Dep. Chief Engineer LA DPW



NLA



Speaker: 7/7 **Christine Flaherty** Senior VP Health + Hospitals



Speaker: 7/21 Anna S. Mehrotra Environmental Engr. CDM Smith



Speaker: 7/28 Nicholas DeNichilo **President and CEO** Mott MacDonald







Lucio Soibelman **Deans Professor** USC Viterbi

Co-moderator: 6/23 Co-moderator: 6/30 Purnima Kapur Past Exec. Director NYC DCP

Co-moderator: 7/7 Vincent Falkowski President CMAA NY/NJ

Co-moderator: 7/14 Wayne Crew **General Secretary** NAC

Co-moderator: 7/21 William Nylic, III President, NYWEA



Co-moderator: 7/28 Patrick Natale **Executive Director** United Engr. Foundation

Center for Buildings, Infrastructure and Public Space

Lectures on COVID-19 Impact on AEC Industry





Speaker: 8/4 Vitor Aly Infrastructure City of Sao Paulo Speaker: 8/11 Gia Biagi **DOT Commissioner** City of Chicago

Speaker: 8/18 Keping Sun **Deputy Manager China Construction**



Speaker: 8/25 Bok Nam Lee Professor, Seoul National University





Speaker: 9/8 Kartik Chandran Douglas Mass Professor Columbia University Cosentini Associates





Co-moderator: 8/4 Luiz Carlos Pinto da Silva Filho, Dean of Engineering, UFRGS of Illinois - Urbana

Co-moderator: 8/11 Nora El-Gohary Professor, University



Co-moderator: 8/18 Nan Li Professor, Tsinghua University, Beijing



Co-moderator: 8/25 Moonseo Park **Professor, Seoul** National University



President

Co-moderator: 9/1 Lance Jay Brown President **CSU**



Co-moderator: 9/8 Jay Slmson President and CEO ACEC New York

Center for Buildings, Infrastructure and Public Space

Lectures on COVID-19 Impact on AEC Industry



Speaker: 9/22 Justin Garrett Moore Executive Director Public Design Comm Speaker: 9/29 Mindy T. Fullilove Professor The New School Speaker: 10/6 **Kerry Scott** Inclusion Director Mott MacDonald



Co-moderator: Suzanne Mecs Managing Directo AIA New York Co-moderator: Gregory Switzer President-electi nycoba|NOMA Co-moderator: Alexandra Wagner Engineer Mott MacDonald The CBIPS lecture series, **Social Justice and the AEC Industry** is seen as a mechanism to come together to discuss what can be done, and what is being done by architects and engineers in concert with community activists, elected officials, public agency heads and private sector leaders. The series started on Tuesday, 9/22/20 with Justin Garrett Moore, Executive Director of the NY Public Design Commission talking about his work with the BlackSpace Collective in a lecture titled "Design and Difference." The second talk, on Tuesday, 9/29, by Mindy Thompson Fullilove, MD, a social psychiatrist and New School Professor, addresses some of her ideas about public space coming out of the research for her newly published book "Main Streets: How a City's Heart Connects Us All." And on Tuesday, 10/6, Kerry Scott, Global Practice Leader for Social Inclusion at Mott MacDonald, will join us by Zoom from London to talk about inclusion in the AEC Industry. The series continued every Tuesday at noon into mid-November.

Center for Buildings, Infrastructure and Public Space

Lectures on Social Justice and the AEC Industry



Speaker: 9/22 Justin Garrett Moore Executive Director Public Design Comm.





Speaker: 10/6 **Kerry Scott** Inclusion Director Mott MacDonald

Speaker: 10/13 **fvette E. Pearsor** Associate Dean Rice University





Speaker: 10/27 **Mark Gardner** Principal aklitsch/Gardner



Speaker: 11/3 **Pascale Sablan** Founder, Beyond the Built Environment



Co-moderator: Suzanne Mecs Managing Directo AIA New York

Co-moderator: Gregory Switzer President-electi nycoba | NOMA

Co-moderator: Alexandra Wagner Engineer Mott MacDonald

Co-moderator: Lisa M. Black Director of Social Belonging, ASCE Co-moderator: Chelsea LeMar Executive Director PWC Co-moderator: Jatalia Valencia President 'C Arch. Biennial Co-moderator: **Tonja Adair** Principal SPLICE Design

Center for Buildings, Infrastructure and Public Space

Lectures on Social Justice and the AEC Industry

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Lectures Industry Leaders at the CBIPS Studio Lab

During its first year, CBIPS benefitted from the availability and enthusiasm of eminent engineers, such as George Leventis, FASCE, of Langan, who gave a talk about the exigencies of site engineering. The hour-long supplemental lectures complemented research efforts underway. Speakers included Bruce Eisenberg, Deputy Director of Design for the New York City Housing Authority; Mark Ginsberg, architect and president of the Citizens Housing and Planning Council; James McCullar, architect and president of the Consortium for Sustainable Urbanization. For the 2019-20 academic year, a similar program of guest lectures by local experts augmented research efforts by current Fellows.

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Research▼



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Research▼

CBIPS Fellows become active participants in the planning processes and can collaboratively suggest new ways of looking at problems that have confounded government representatives and community groups.-Action research projects conducted by CBIPS Fellows have addressed some of the issues of renovating and building social hosing, such as resource allocation, systems design, site resiliency, and facility maintenance. These have challenged the technical staff of the NYC Housing Authority. Other agency partners proposing collaborative research projects have included the NYC Department of Parks and Recreation, the NYC Department of Environmental Protection, and the Historic House Trust. Elected officials in the Upper Manhattan neighborhoods of Washington Heights and Inwood have partnered with CBIPS on issues of building technology, energy efficiency and historic district designation.

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Research ► Affordable Housing

Following up on the previous year's social housing research relating to the New York City Housing Authority (NYCHA) and its issues of apartment condition, architecture - defined as facades, windows and roofing, mechanical systems, elevators, and site work, the 2019-2020 Fellows focused on other methods of providing **affordable housing**. Of particular interest was the technology of off-site modular production. Fellows analyzed the challenges and opportunities in consultation with modular design experts and housing producers, using Zoom to meet individuals in New York and Chicago.

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Research ► Material Analysis of NYC Park Sea-rails

The NYC Department of Parks and Recreation controls, maintains, and improves public parks, playgrounds, and sports fields located throughout the five boroughs. The 2019-2020 CBIPS Fellows has the opportunity to work with Parks Department technical staff on analysis of sea-rail corrosion in waterfront parks. Key issues in material selection of replacement railing system were initial cost, maintenance, sustainability, and resilience. The departmental mission "is to plan resilient and sustainable parks, public space, and recreational amenities, build a park system for present and future generations, and care for parks and public spaces."

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Research ► Cybersecurity for Civic Infrastructure

Smart cities use city growth and community development expertise to assure a prosperous future for all. CBIPS research centered on how to protect and enhance the quality of life, which is increasingly augmented through technological changes in our infrastructure. How do we protect our transportation network when, more and more, we are using artificial intelligence to control traffic? The use of what has been called "big data" to inform and justify decisions about system design and resource allocation was analyzed in the context of risks of cyber-incursion and other intentional systemwide cyber attack..

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Research ► Water Quality Testing

The NYC Department of Environmental Protection has among its key responsibilities the delivery and protection of the drinking water that New Yorkers enjoy, and the removal of stormwater and other substances, including airborne pollution, deleterious to the health of the population. Research projects include issues of placement and efficacy of street-side drinking water sampling stations; issues of risk and amelioration in regard to detecting lead in the city's public schools; and issues of use of technology to detect microbiological and chemical pollutants. Fellows worked closely with DEP technical staff.

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Research ► Historic Infrastructure Renovation

The **Historic House Trust** is responsible for 23 sites of architectural and cultural significance. The 2019-2020 CBIPS research project, done in collaboration with the Historic House Trust, includes an analysis of the refurbishment needs at the Little Red Lighthouse, located adjacent to the George Washington Bridge. Issues include accessibility, site work, initial cost, cost of maintenance, sources of funding, community facilities, symbolism, and whether onsite or offsite renovation makes more sense. Comparable lighthouses from Rhode Island, Michigan, and Hawaii were analyzed in regard to the cost of renovation and the technical challenges posed..

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Research ► Historic District Designation

In support of the 2030 Plan for the Upper Manhattan neighborhoods of Washington Heights, Inwood, and Marble Hill, "In the Heights" focused on 10 key issues that will determine environmental quality. The key proponent of the collaborative planning process, City Council Member Ydanis Rodriguez introduced the 2018-2019 Fellows to completed projects and planned sites in the communities he represents. The 2019-2020 CBIPS Fellows focused on issues of historic district designation, energy-efficient windows, Art Deco architecture with the office of Congressman Adriano Espaillat.

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Research ► Data Analytics and Visualization

The use of information technology supports almost every aspect of daily life. Construction is no exception. As part of a **visualization and analytics** research project, CBIPS Fellows will explore the use of computer vision and visualization, augmented reality, and deep learning. These can support more effective monitoring of the construction process, as well as increased project safety and quality of the work performed. As the construction management process becomes increasingly reliant on predictive tools, the skills and capacities developed by the CBIPS Fellows will become very useful.

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Application▼



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Application▼

Application to the CBIPS is highly selective, involving an understanding of value and willingness to participate in collaborative action research.

Applications require:

- a brief statement about what you will gain from the program
- a brief statement about what you will contribute to the program
- a brief statement of what type of research you would like to do
- a résumé
- agreeing to participate for the whole year, not a single semester
- participation in site visits, field study and research projects
- a brief interview (contact cbips@columbia.edu to schedule)

Additional application information is on the CBIPS website: <u>https://cbips.engineering.columbia.edu/</u>

The CBIPS application deadline is 15 August 2021, and the first CBIPS group meeting will take place on Tuesday, 14 September 2021.

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Partners▼



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Partners▼

CBIPS has benefited from partnerships with some of the leading engineering and construction management firms in New York and around the world. These partnerships have included conversations with company executives, many of whom serve on our Advisory Board, as well as mentoring by recent alumni working at these firms in New York City. In addition several firms, including, in particular, AECOM, have opened their offices and construction sites for intense and interactive discussions with senior technical and administrative staff. CBIPS Fellows over the last three years have met with AECOM engineers and project managers in New York, Los Angeles, London and Paris. Among the AECOM sites analyzed in March of 2019 was the Los Angeles River.

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Practicum▼



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Practicum[▼]

To achieve its goals, CBIPS is partnering with AECOM on a new Practicum that will allow selected students to participate with AECOM staff on initiatives relating to Operational Excellence. A Practicum is a supervised program of study that emphasizes the pragmatic application of theory, involving hands-on experience in a field of study relate to more traditional coursework. It is not a paid internship, but rather a part of the academic program that takes place outside the walls of academia. It often helps prepare students for internships and other future employment by stressing applications, projects, and real-world challenges. For the CBIPS Practicum at AECOM, selected CBIPS Fellows will be looking at the firms use of data analytics, data representation, data dashboards, forecasting, and other aps used to collect and utilize data. Data analytics has helped AECOM achieve success in such transformational New York City projects.

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The Practicum will incorporate agile project management learning that will allow the students to collect hours against the PMI-ACP certification. One section during the first semester (September to December) will be to learn about Agile Management where the students will view presentations from the AECOM Team on Agile Project Management modules and they will be provided real life examples based on the module presented each time. During the "theory" period the students will be encouraged to apply the agile methodology during their semester project work and present examples of their learning. The second section (January to May) will be the hands-on portion – where the students will work on operation excellence initiates and apply their agile project management learning experience.

Practicum[▼]



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Practicum[▼]



At AECOM, Marilisa Stigliano serves as Metro New York Director of Operations, having started that role in December of 2020. Previously she served at AECOM as Director of Operations, Disaster Resilience, and as Operations Manager for the Buildings + Places business line for AECOM Northeast and Director of Project Controls for Metro New York. Since joining AECOM in 2014, Marilisa has focused on large, complex projects, including New York City's Build It Back for which she has served as Business/commercial Manager overseeing Project Controls (Cost and Schedule Control, Change and Risk Management, Reporting) and Contract administration. She also manages the Deputy Project Manager Program, which she created in 2016 to train and mentor young project management professionals and integrate them into the business lines. Previously, Marilisa served as Global Project Controls Manager for a Capital Delivery Partnership with an international pharmaceutical provider and focused on design and construction engineering and global delivery. She began her career at AECOM with the risk management team, conducting assessments for multibillion-dollar projects, including the Purple line in Baltimore and the Riyadh Metro in Saudi Arabia, for which she was also responsible for key financial aspects. Marilisa studied structural engineering at La Sapienza and construction management at Columbia. She has served as the Co-Chair of the New York Building Congress' Young Professionals Committee, which attracts young professionals to the architectural, engineering and construction industry, since it was founded in 2017.

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Practicum[▼]



Dimitra Karachaliou is a Project Controls Manager with AECOM for the past five years, where she is leading AECOM's Metro NY Deputy Project Manager team. She is specialized in interactive cost and schedule performance dashboard creation, project finance and operations. She holds a Structural Engineering Diploma (master's equivalent) from N.T.U.A., Athens, Greece, and a Master's in Construction Management from Columbia University, New York. Dimitra began her construction career working in the Budget and Estimating Department of Stern Projects, LLC, a construction management company focused on residential renovations. Since joining AECOM in 2016, she worked as a project controls specialist for various multi-million dollar projects, such as the NYC Build It Back Program and the EWR Terminal A Redevelopment Program. Currently, she is working as a consultant to the Chief of Project Controls and VDC of the Port Authority of NY and NJ, managing project controls initiatives for the Authority's Engineering Department. Apart fom her client work, she is working closely with AECOM's Metro NY Director of Operations on Operation Excellence Initiatives. Dimitra is a certified Project Management Professional (PMP) and she has received the CORO Leadership New York Certification. In 2018, she was honored by the Women Builders Council as one of the "Next Generation Women Builders." She is a member of the ACE Mentor Program, and she is PWC's Experienced & Emerging Professionals Mentorship Program (2020-2021).

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Thank you ▼



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Thank you ▼



For more information about CBIPS or the Practicum, please contact us at <u>cbips@columbia.edu</u>

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