

JULIUS CHANG, Eng.Sc.D., P.E.

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EDUCATION: Eng.Sc.D., Civil Engineering, **Columbia University**, 2007
M.S. and Mastère, Joint Program in International Energy Management and Policy, **University of Pennsylvania** and **Institut Français du Pétrole (Paris)**, 1991
M.S., Civil Engineering, **Columbia University**, 1989
B.S., Civil Engineering, **Columbia University**, 1986

LICENSE(S): Professional Engineer-New York, 1995 (071999)

EXPERIENCE: **Department of Civil Engineering and Engineering Mechanics,**
Columbia University, Room 610 S.W. Mudd, New York, NY, 10027
August 2010-present

- Senior Lecturer in Civil Engineering, responsible for teaching four courses (graduate & undergraduate) in construction engineering and management during the academic year while advising students and providing industry outreach. Topics taught include strategic management, project delivery and financing (i.e. PPP), project evaluation, engineering economy, risk analysis, decision models and project management. Developed three new courses as part of curriculum: W4149 Roman Art of Engineering (co-created with Arts & Science, A6382 Sustainable Infrastructure Systems and E4141 Public Private Partnerships in Global Infrastructure Development.

HDR, Inc., 500 Seventh Avenue, New York, NY, 10018
September 2013-present

- NY/NJ Project Controls Lead, responsible for overseeing a staff of project controls professionals assigned to various projects and programs both locally and nationally in the areas of cost estimating, scheduling, document control, risk management and data analytics. Risk Manager and facilitator for multiple cost and schedule risk assignments for MTA agencies involving the major rehabilitation of bridge, tunnel, and transit facilities. Associate with a broad array of responsibilities including client management, project management, project controls and marketing/business development. Client Manager for MTA Bridges and Tunnels and Contract Manager for a 6-year on-call task order contract to provide engineering, inspection and expert services. Contract Manager for a 4-year contract with PANYNJ to provide program/project management services on an as-needed basis. Principal Investigator for a proof-of-concept study co-sponsored by FHWA and NYSDOT that represents the first documented fabrication and verification of a steel bridge girder based solely on the transfer of electronic data.

EXPERIENCE

STV Construction, Inc., 225 Park Avenue South, New York, NY, 10003
November 2010-August 2013

- Risk Analyst and Estimator in Project Controls group, working in the areas of risk assessment, value engineering, cost estimating and constructability review. Representative project experience includes assisting in the development of a risk register for the LA to Anaheim segment to the CHSRA's 800-mile high-speed train service for travel between major metropolitan areas of California. Involved in the Civil/Structural construction cost estimate for the Amtrak Westbound Bypass project at the LIRR Harold Interlocking area for providing grade separated exclusive Amtrak access to the East River Tunnels. Also prepared the Conceptual Design Cost Estimate for multiple master plan design and phasing options for the expansion of the airline terminal, landside and airside facilities of CONDOT's Bradley International Airport.

MTA Bridges and Tunnels (TBTA), Robert Moses Building, Randall's Island, New York, NY, 10035, 1998-July 2010

- Manager of Truck Permitting Unit, with extensive involvement in inter-agency planning initiatives related to the movement, evaluation, and enforcement of over-dimensional trucks. Previously served as Principal Structural Engineer and deputy to the Head of Structural Engineering involved in the planning of rehabilitation projects for major bridge and tunnel structures.

Parsons Brinckerhoff Quade & Douglas, One Penn Plaza, New York, NY, 10119, 1992-1998

- *Airport Access Program, New York, NY*: Senior structural engineer for the \$1.5 billion 8.4 mile fixed guideway light rail transit link (LRS) to John F. Kennedy International Airport (JFK). Involvement from conceptual design to eventual award of this Design, Build, Operate, and Maintain (DBOM) contract. Responsibilities included aerial guideway type studies, preparation of design criteria and conceptual drawings, development of documents and drawings for the RFP, and service on the structural design technical proposal evaluation team.
- *Newport Bridge Rating, Newport, R.I.*: Engaged in the load rating analysis of the superstructure, which includes the 1,600-foot-long main suspension span, the simple and continuous approach truss spans, and the prestressed concrete girder approach spans.
- *63rd Street Tunnel Connection, New York, NY*: Structural engineer for a combination cut-and-cover and mined transit tunnel extension. Designed tunnel frame members and connections, including the underpinning of several pier columns of an elevated transit structure. Utilized COGO and EXCEL to establish lateral clearance requirements, column placements, and other geometrical considerations. Also reviewed contractor shop drawings for compatibility with original design drawings.

EXPERIENCE

(Cont'd):

New York City Department of Transportation (NYCDOT), Bureau of Bridges, 2 Rector St., New York, NY, 10006, 1989-1990

- *Maintenance Division:* Performed field inspections, prepared design repair design calculations, and drafted repair details for various bridge rehabilitation projects.

Department of Civil Engineering and Engineering Mechanics, Columbia University, Room 610 S.W. Mudd, New York, NY, 10027, 1988

- Graduate Research Assistant: Assisted in the development of the Preventive Bridge Maintenance Management System presently used by NYCDOT.

Parsons Brinckerhoff Quade & Douglas, One Penn Plaza, New York, NY, 10119, 1986-1988

- *New Jersey Turnpike Widening, Newark, NJ:* Structural engineer for the superstructure design of a 1.7-mile expanse of curved steel plate-girder highway bridge between interchanges 15E and 15W.

COURSES

TAUGHT:

E4135 *Strategic Management for Engineering and Construction*

W4149 *Roman Art of Engineering*

E4141 *Public Private Partnerships in Global Infrastructure Development*

E4137 *Managing Civil Infrastructure Systems*

E4133 *Capital Facility Planning & Financing*

E3129 *Project Management for Construction*

E3004 *Urban Infrastructure Systems*

E4131 *Principles of Construction Techniques*

E3128 *Design Projects (Capstone Undergraduate Project)*

A6382 *Sustainable Urban Infrastructure Systems*

PUBLICATIONS:

“The AE Delivery Firm: A Conceptual Model of Project-Based Professional Service.” *International Research Network on Organizing by Projects (IRNOP)*, Delft, Netherlands, 2026. Peer-reviewed conference paper.

“Transforming Engineers into Strategic Thinkers: Reframing Education in the A/E Profession.” *IPMA Research Conference*, Bogotá, Colombia, 2026. Peer-reviewed conference paper (500-word abstract in proceedings).

“Strategic Organization and AI Adoption in Engineering Practice.” *Engineering Project Organization Conference (EPOC)*, 2026. Peer-reviewed Extended Abstract.

Use of Public-Private Partnerships in Bridge Infrastructure Delivery.”
Proceedings of the Fifth New York City Bridge Conference, 17-18 August 2009.

Julius CHANG, Eng.Sc.D., P.E.

EXPERIENCE

(Cont’d):

“A New Model for Infrastructure Service Life with Application to Bridge Assessment and Management.” In: *Public Works Management & Policy*, Volume 12, Number 3, January 2008, pp. 515-532.

“A New Model for Service Life with Application to Bridge Deficiencies.” *3rd Annual Inter-University Symposium on Infrastructure Management (AISIM)*. June 2007. (Award for Best Presentation)

“Sensitivity Analysis to Assess the Impact of Truck Weight Reform on Bridge Network Costs.” *Proceedings of the TRB 86th Annual Meeting*. January 2007.

“A Conceptual Model of Bridge Service Life.” In: *Journal of Bridge Structures*, Volume 2, Number 2, June 2006, pp. 107-116.

“Bridge Fatigue Evaluation Based on AASHTO Load and Resistance Factor Rating (LRFR) Manual and Weigh-In-Motion (WIM) Data.” *Proceedings of the First International Conference on Fatigue and Fracture in the Infrastructure-Bridges and Structures of the 21st Century 2006*.

“Program to Preserve, Rehabilitate, and Upgrade the Verrazano-Narrows Bridge.” *Proceedings of the International Bridge Conference*. June, 2005

“Framework to Address the Impact of Truck Weight Reform on Bridge Service Life.” *Proceedings of the TRB 84th Annual Meeting*. January, 2005.

“Suspension Bridge Service Life Issues from an Owner’s Perspective.” *Proceedings of the Second New York City Bridge Conference, 20-21 October 2003*.

PRESENTATIONS:

“Developments in Engineering Education: A New Course in Public-Private Partnerships”, Keynote Lecture, ASCE SEI Met Section Spring Seminar Series, May 22, 2019

“An Overview of Infrastructure PPP”, presentation to China Construction America (CCA), Jersey City, NJ, December 2, 2016

“Rebuilding Our Infrastructure: Political, Jurisdictional and Funding Challenges”, ASCE Met Section Government Affairs Committee, New York, April 16, 2015

AWARDS:

2017 Columbia Engineering Alumni Association (CEAA) Distinguished Faculty Teaching Award