

BUILDING THE SUPPLY CHAIN OF THE FUTURE

Columbia Business School
Uris Hall, Calder Lounge
February 1, 2019



Building the Supply Chain of the Future

The role of the supply chain leader is dramatically evolving, and is often quite different from company to company. To help advance the role of senior supply chain leaders, the Supply Chain Innovation Network has partnered with the W. Edwards Deming Center of Columbia Business School to launch the first executive network consisting of supply chain innovators from top companies, the start-up community and Columbia University.

This inaugural event of the Supply Chain Innovation Network focuses on “Building the Supply Chain of the Future.” This one-day Summit implements a core education methodology, focused on small-group scenario work, peer-to-peer learning and exposing supply chain innovators to leading scholars and latest information.

Convenors



The W. Edwards Deming Center for Quality, Productivity and Competitiveness at Columbia Business School promotes operational excellence in business through the development of research, best practices and strategic planning. The Center aims to build bridges between theory and practice by facilitating relationships with industry that lead to a richer curriculum at the School.



The Supply Chain Innovation Network is an exclusive, invite-only group of supply chain innovators and disruptors. The goal of the Network is to gather leaders from top companies, the start-up community and Columbia University and to share knowledge through best practice presentations, small-group discussions and peer-to-peer learning modules.

Dear Supply Chain Innovation Network Members,

It is with great enthusiasm that we welcome you to the inaugural Supply Chain Innovation Network event where we will focus on Building the Supply Chain of the Future. We look forward to an enlightening day of learning and discussion on the pressing topics of today as we prepare for a rapidly changing future.

Our aim for today and for future Supply Chain Innovation Network events is to foster a community of leading academics and practitioners who will come together to share knowledge, best practices, and new technologies as supply chain management transforms at a lightning pace. As disruptive innovations in technology join forces with political and economic uncertainty and shifting consumer demands regarding transparency and the environment, the time has never been better to share ideas and thoughts on navigating this uncharted territory.

Our goal at Columbia Business School is to bridge theory and practice by facilitating collaboration and communication between academia and industry. This network is an ideal way to connect the cutting-edge research happening on campus with the real-world challenges and opportunities that industry leaders face.

Today is just the beginning. Our next summit is planned for Fall, 2019 and we hope to continue the conversation throughout the year as we work together to shape the next agenda.

Here's to an interesting, informative day and the start of a long-lasting collaboration.

Warm regards,

Nelson Fraiman, Angela Quintero, and Abigail Talcott-Schlaifer
The Deming Center, Columbia Business School

Ken Stern and Ilana Golant
Palisades Media Ventures

Agenda

8:00 – 8:30 AM

Registration and Breakfast

8:30 – 9:00 AM

Welcome and Introductions

Nelson Fraiman, Professor of Professional Practice, Faculty Director
The Deming Center, Columbia Business School

Glenn Steinberg, Global and Americas Supply Chain Leader, EY

Ken Stern, Chair, Supply Chain Innovation Network

9:00 – 9:30 AM

Supply Chain Reinvention: Navigating the Complexity with Confidence

Facilitator: **Glenn Steinberg**, Global and Americas Supply Chain Leader, EY

9:30 – 10:15 AM

The Digital Supply Chain Roadmap: Sharing Knowledge on Emerging Technologies & Digital Workforce to Build the Future Supply Chain

Facilitators: **Craig McKenney**, Managing Director, Head of Global Supply Chain, Citi

Michael Valentini, Managing Director, Head of Supply Chain, Controls and Governance, Citi

10:15 – 10:35 AM

Networking Break

10:35 AM – 11:20 AM

Supply Chain Clusters vs. Dispersed Value Chains

Facilitator: **Professor Medini Singh**, Columbia Business School

11:20 – 12:00 PM

Disruptive Technology in the Cognitive Supply Chain: How Blockchain, Artificial Intelligence and IoT are Changing the Game

Facilitator: **Tony Horton**, Vice President Operations and Supply Chain Execution, IBM

12:00 – 1:00PM

Lunch

1:00 – 1:30 PM

What if Something Goes Wrong? Liability Protection in a Complex Supply Chain

Case Study: **Professor Awi Federgruen**, Columbia Business School

1:30 – 2:15 PM

Transforming the Workforce: Developing and Retaining Talent to Fill the Jobs of the Future

Facilitator: **Alex Blanco**, Chief Supply Chain Officer, Ecolab

Discussant: **Garud Iyengar**, Fu Foundation School of Engineering and Applied Science, Columbia University

2:15 – 2:40 PM

Networking Break

2:40 – 3:20 PM

Process Innovation: Designing Tomorrow's Business

Facilitator: **Biswaranjan Sen**, Executive Vice President Supply Chain, Unilever

3:20 – 4:00 PM

The Reverse Ownership Supply Chain: Digitization in a Rapidly Changing Landscape

Facilitator: **Yone Dewberry**, Senior Vice President & Chief Supply Chain Officer, Land O'Lakes

4:00 – 4:30 PM

Wrap Up: Minding the Basics While Defining the Metrics for Measuring the Impact of New Technologies

Facilitator: **Professor Omar Besbes**, Columbia Business School

Participants



Adam Kalikow Senior Director, Supply Chain Planning & Analytics, HelloFresh

Adam is currently Senior Director of Operations at HelloFresh where he oversees Supply Chain Analytics and Special Projects. Since graduating from CBS in 2016, he has worked throughout the HelloFresh supply chain on topics ranging from produce procurement to last mile delivery to demand forecasting and more. Prior to CBS, Adam spent time in Mortgage Credit Risk Management at Capital One and in the Office of Policy at the Department of Homeland Security.



Alex Blanco Executive Vice President & Chief Supply Chain Officer, Ecolab

Alex Blanco is executive vice president and chief supply chain officer for Ecolab Inc., the global leader in water, hygiene and energy technologies and services that protect people and vital resources.

In his current role, Blanco is responsible for Ecolab's Global Supply Chain, which consists of more than 130 product manufacturing facilities, nearly 300 warehouses and more than 12,000 associates throughout the world.

Prior to Ecolab, Blanco worked for Procter and Gamble Co. (P&G) for thirty years, serving as vice president, Global Personal Beauty Care and Gillette Personal Care Product Supply. In this role, he was responsible for improving supply chain innovation and operational excellence. In previous roles, he led Supply Chain in other key P&G divisions and also had several international assignments, including a Europe regional role based in Geneva, and Latin America roles based in Venezuela and Colombia.

Blanco has a bachelor's degree in mechanical and aerospace engineering from Princeton University. He serves on the Board of Directors for Patterson Companies, Inc. and YMCA of the Greater Twin Cities.



Andres Prado Director, Latin America Sourcing & Procurement, Merck

Andres joined Merck in 1999, where he has been in multiple roles, with incremental responsibilities for the past 19 years, primarily within the Sourcing & Procurement team across the multiple divisions in the company, with an early start in manufacturing operations, and eventually moving into the Indirect services for the commercial business. Andres has led the Latin American region for the past four years and previously managed other individual markets. He has also spearheaded projects to drive efficiencies through company-wide initiatives as well as in the industry, including his leadership of the Source to Settle Pilot project implementation using SAP technology for Merck.



Biswaranjan Sen Executive Vice President Supply Chain, Unilever

Biswaranjan Sen is a Chemical Engineer by training. He joined Unilever in 1991 and has worked in R&D and across various parts of the Supply Chain including manufacturing, planning, logistics, customer service and procurement. He was a member of the Board of Directors of Unilever Indonesia with responsibility for the supply chain between 2009 and 2012.

He has been an EVP in Unilever since May 2017 and his role currently covers responsibility for the Beauty and Personal Care Supply Chain, Engineering and leading the Digital Transformation team. He was VP Group SC Personal Care before his current appointment and prior to his responsibilities with Personal Care, he was Vice President Procurement Chemicals.

Having lived and worked in Singapore for the last five years, he is now based in London. Biswaranjan Sen has also assumed the responsibilities of Co-chair at RSPO since 2012.

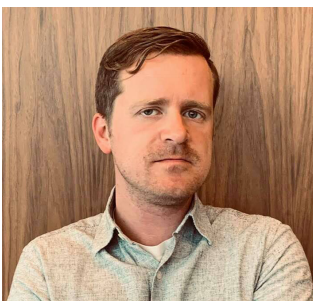


Cathy Kadets Vice President, Business Data Solutions, Moody's Investor Services

Cathy Kadets is a focused, results-oriented leader with a record of accomplishments in data operations, project management, business process reengineering, and offshore vendor management. She held management positions in leading financial service firms and advised Fortune 500 Companies in technology and operations.

Currently, she is a Vice President at Moody's in the Data & Operations Group. Previously, she consulted in the Financial Services group at Ernst & Young (now Cap Gemini), sold data products for Reed Elsevier (Lexis-Nexis) and was an associate at Morgan Stanley servicing clients in areas such as corresponding and clearing and prime broker services.

Cathy is an experienced project manager and is PMP certified. She earned an MBA in Finance from Columbia Business School and a BA in Economics from the Johns Hopkins University. She also holds a 5-year certification in homeopathic medicine and has worked as a certified private Pilates instructor.



Charlie Moore Vice President, Supply Planning, FreshDirect

Charlie Moore is the Vice President of Supply Planning for FreshDirect. He is responsible for working with buyers to ensure adequate inventory levels on all Center Store categories as well as planning the inbound timing for all merchandise that arrives to their new state of the art facility in the Bronx.

Charlie has an undergraduate degree in Marketing from Coastal Carolina University and has spent his career in category management and store operations prior to joining FreshDirect, the freshest food provider in the Northeast.

Participants



Craig McKenney Managing Director, Head of Global Supply Chain, Citi

Craig McKenney is Citi's Head of Enterprise Supply Chain (ESC) and a member of the Operations & Technology Operating Committee. Craig is responsible for the strategy and execution of the end-to-end supplier lifecycle process, including strategic sourcing of Citi's suppliers across the globe, supply chain development, inclusion & sustainability, Citi's strategic supplier partnership program, third party management operations, purchasing & payment operations, and supply chain systems & technology. He leads ESC's global, regional and infrastructure teams, which are based in Citi Service Centers in Tampa, Costa Rica, Budapest, Chennai, Manila and Dalian, and other major metropolitan centers. Craig also represents ESC on the Citi Expense Governance Committee and the Citi Execution & Ethics Program. Prior to his current role, Craig was Citi's Global Head of ESC Operations, and before that Global Head of Procurement Operations, Capabilities & Systems, Source to Procure Service Centers, and also led Procurement in LATAM. Before joining Citi, Craig was Chief Procurement Officer, Vice President of Procurement and Vendor Management at Best Buy. Before Best Buy he had roles at Accenture and IBM, focused on IT and Business Process Outsourcing. Earlier in his career he founded two successful technology companies.

Craig studied Engineering at the University of Alberta, has an MBA from the University of Toronto, and has a Master's of Science in Risk Management at NYU.



Darrell Edwards Senior Vice President & Chief Supply Chain Officer, La-Z-Boy

Darrell Edwards currently serves as Senior Vice President and Chief Supply Officer for La-Z-Boy Inc. In this role, he leads an operations team composed of more than 5,500 employees in the areas of manufacturing, global procurement, distribution, lean engineering, sales and operations planning, customer experience, and research and development. Darrell joined La-Z-Boy in 2004 and has held several positions of increasing responsibility during his tenure with the company, including his prior role as Senior Vice President of Operations.

Currently, Darrell serves on the Advisory Board for the Global Supply Chain Institute at the University of Tennessee, the Michigan State University Supply Chain Management Council and Rutgers University Cybersecurity Advisory Board. Additionally, he was selected as a 2018 Rainmaker Award recipient by DC Velocity Magazine.

Darrell holds a Doctorate in Business Administration from the Fox School of Business at Temple University in Philadelphia, a Master of Business Administration degree from the University of Tennessee at Knoxville, and a Master's Degree in Global Management from the Thunderbird School of Global Management in Glendale, Arizona.



Ed DuBeau Senior Director, US Supply Chain & Logistics, Zoetis

Ed DuBeau is currently the team leader for the Demand Management and Distribution functions for the US market and represents the GMS organization on the US Commercial Leadership team. Ed has over 30 years of manufacturing and supply chain experience in the pharmaceutical and cosmetics industries including leadership positions at Pfizer, Inc, Sandoz Pharmaceuticals and The Estee Lauder Companies. In his position prior to joining Zoetis, Ed led Pfizer's Consumer Health Manufacturing Site as well as Vaccines Supply Chain Operations at their Pearl River, NY location.

Ed holds a Bachelor's of Science in Industrial Engineering and a Master's of Science in Engineering Management from the New Jersey Institute of Technology. He is an active member of APICS and is certified at the CSCP, CIRM and CPIM levels. Ed lives in East Hanover, N.J., with his wife and three children.



Glenn Steinberg Global and Americas Supply Chain Leader, EY

Glenn is a Principal in EY's Advisory Services business, a member of the firm's Executive Leadership Team and is serving as the Global and Americas Supply Chain Leader. He previously served the firm as the Americas Advisory Solutions Leader spanning the Performance Improvement, Risk and People Advisory Services businesses. Glenn has over 25 years of consulting experience driving high impact strategies and business execution across the Fortune 500.

Glenn has a proven track record of leading organizations through periods of change. He possesses superior leadership, communication and problem-solving capabilities, drawing on experiences from a diverse set of industries and business functions. Glenn's strategic skills coupled with his extraordinary operational skills enables development and execution of business plans to drive competitive advantage.



Greg Murphy SVP of Operations, Lindenmeyr Monroe, Central National Gottesman, Inc.

Greg Murphy has worked in the distribution industry for 30 years in a variety of roles and responsibilities. Greg began his career as the Director of Distribution for Decatur Hopkins Company in Taunton, MA. It was there that he directed the first RF warehousing implementation in the hardware distribution business. In the mid 1990's Greg became the Vice President of Operations for Moore-Handley Co, the leading hardware distributor in the southeast. Greg led the design and implementation of a multi-site RF warehouse Management System and electronic transportation network. In 2000, Greg joined the Lindenmeyr Munroe division of Central National Gottesman Inc. (CNG). Lindenmeyr Munroe is the leading distributor of Fine Paper in the U.S. with 20 facilities throughout the Northeast, Mid-Atlantic and Mid-West regions. In his current position as Sr Vice President of Operations, Greg is responsible for warehousing, distribution and facilities management of the 20-facility network. Some of his accomplishments at Lindenmeyr Munroe include improving year-end physical inventory adjustments from -2.2% to -.0009% annually; reducing handling expense from 1.93 % of sale in 2005 to 1.5% in 2018 resulting in a savings of \$2.8 million; implementing a truck routing software system that has improved efficiency by more than 25% or \$5.2 million annually. Most importantly, he has reduced company-wide work-related injuries from a high of 64 in 2013 to just 9 in 2018 while doubling warehouse throughput over the same period.



Ilana Golant Chair, Supply Chain Innovation Network

Ilana is COO and Managing Director of Palisades Media Ventures.

Previously, Ilana served as the senior director for strategy and business development at NBCUniversal News Group where her portfolio included the TV and digital properties of NBC News, MSNBC, and CNBC.

Ilana also served as editorial director for strategic content and news partnerships at CNBC. At NBCU, Ilana focused on content monetization and new business models; she launched the live events and sponsored content businesses across the News Group portfolio.

Prior to joining NBCU, Ilana was an attorney-advisor in the Office of Financial Stability at the U.S. Department of the Treasury and an attorney at Mayer Brown LLP. Ilana received her B.A. from Columbia University and her J.D. from New York University School of Law, where she was the Editor-in-Chief of the Journal of Law & Business.

Participants



Jacquelyn Marcus Vice President, North America Supply Chain, New Avon

Jacquelyn Marcus is currently the Vice President of Supply Chain for New Avon LLC. Jackie is responsible for the integrated end-to-end supply chain and reports directly to the CEO. She is a highly effective leader who has substantially changed the organization by driving cost savings and efficiency and has successfully consolidated Avon's distribution and manufacturing footprint.

Over the course of her 10+ year tenure at Avon, Jackie has held various positions, including the head of the Canadian Supply Chain where she was an integral leader in the transformation of the Canadian business, which included a SAP and ERP implementation as well as a shift reduction in distribution, and outsourcing of the operation. She was also the Director of Marketing Operations, Director of Product Development for Jewelry and Watches, and Director, Gift & Home Sourcing and Service Support.

Jackie's early career included roles at Hewlett Packard within manufacturing and distribution, and at Phillip Morris, where she managed third-party vendors in support of Marketing. Jackie holds a Master of Business Administration from Northeastern University and a Bachelor in Business Administration from the University of Massachusetts, Amherst. She is also APICS CPIM certified.



James Wallace Senior Project Manager, Global Sourcing, AmazonBasics

James Wallace graduated from Columbia Business School in 2011 and joined Amazon in the Retail Leadership Development program. James then spent 3 years as a Program Manager in NA Supply Chain Execution and 2 years as a Product Manager in the Hardlines Private Brands (AmazonBasics) org. He is currently a Product Manager in Retail Expansion, working with software that controls the flow of inventory between Fulfillment Centers and across international borders in NA and LATAM.

Prior to business school, James spent 9 years as an officer in the United States Air Force.



Jose Feliz Assistant Commander for Supply Chain Management, Naval Supply Systems Command (NAVSUP)

Captain Jose L. Feliz assumed duty as Director, Supply Chain Management Division, Naval Supply Systems Command, in September 2017. In this capacity, he ensures Supply Chain policy, oversight and guidance is promulgated to the Warfighter, other Supply Chain organizations, and the rest of the Department.

A native of New York City, Captain Feliz was commissioned through the Naval Reserve Officers Training Corps program. He holds a Bachelor of Arts degree from Fordham University and a Master of Business Administration from the University of North Carolina at Chapel Hill. He completed The University of Virginia's "Business Resources Management Program for Navy Contracting Officers" and is a graduate of the Columbia University Senior Executive Program.

A Joint Qualified Officer and member of the Navy Acquisition Community, Captain Feliz is dual warfare qualified as a Naval Aviation Supply Officer and a Surface Warfare Supply Corps Officer. Personal decorations include the Defense Meritorious Service Medal, Meritorious Service Medal, and Joint Service Commendation Medal.



Ken Stern Chair, Supply Chain Innovation Network

Ken Stern leads the creative and business teams at Palisades Media Ventures, a media development company with a focus on public affairs and building inventive thought leadership platforms.

Stern is the author of the national best-seller “Republican Like Me: How I Left the Liberal Bubble and Learned to Love the Right” (HarperCollins 2017) and “With Charities For All: Why Charities Are Failing and A Better Way to Give” (Doubleday 2013). He is also a frequent contributor to publications such as Vanity Fair, The Atlantic, Slate, and the Daily Beast.

Prior to launching PMV, Stern was the CEO of National Public Radio, where he led NPR to a period of unprecedented growth. Stern also launched NPR’s world class digital efforts which included two satellite channels, its mobile and podcast services, NPR Music and oversaw the successful expansion of NPR.org.

Prior to joining NPR, Stern was a senior executive in American International Broadcasting. Earlier in his career, he held positions in Democratic politics. He began his media career with Radio Free Europe/Radio Liberty in Munich. Stern, a lawyer by training, holds degrees from Haverford College and Yale Law School.



Michael Valentini Managing Director, Head of Supply Chain, Controls and Governance, Citi

Michael is the Enterprise Supply Chain (ESC) Controls and Governance Global Head, responsible for ESC’s Risk Strategy, Supplier Risk Governance, Third Party Utility, and the management of ESC’s Risk and Controls framework. Additionally, Michael is leading ESC’s integration of third party management activities within Citi’s core supply chain processes. Prior to his current role within ESC, Michael has held leadership positions in Procurement Operations, Sourcing, and Analytics. Michael also managed the end-to-end global development and deployment of Citi’s Procure-to-Pay (P2P) applications and support tools. He is a Certified Purchasing Manager (C.P.M.) and holds a Bachelor of Business Administration (BBA) and a Master of Business Administration (MBA).



Ross Brubaker Partner, Supply Chain & Operations, EY

Ross has over 18 years of professional services experience, having served a wide variety of clients across the Consumer Products industries from Fortune 500 to middle market companies. He is a specialist within the Consumer Products industry performance improvement space, with an emphasis on ‘end-to-end’ supply chain strategy, having led multiple projects on numerous large-scale international and domestic accounts. His end-to-end vision provides clients with a tangible roadmap for aggressive cost savings, profitable growth and value creation with rapid ROI. With a focus on FMCG, Ross has led projects across the end-to-end supply chain including network operating model design, global E2E supply chain capability builds, manufacturing efficiency optimization and supply chain product innovation/I2M. Ross is a specialist in manufacturing efficiency improvement having led multiple teams focusing on TPM, AM/PM and CBM principles with the target of OEE/GE improvement and waste reduction.

Participants



Sapana Talwalkar Hardware Supply Chain Lead, Business Operations & Global Logistics, Square

Sapana leads Square's Hardware Supply Chain group on strategic and operational activities, across manufacturing, channel distribution, and logistics. Her focus is on building a supply chain to support rapid growth, scale, and flexibility through strong partnerships and with an emphasis on the customer experience.

Prior to Square, Sapana has supported global supply chains in both tech and retail through a variety of roles, including operations, FP&A, consulting and as a founder of her own apparel business.



Simon Preisler Director of Logistics, Central National Gottesman, Inc.

Simon Preisler has worked with shipping and logistics in Europe, China and the US. After completing an International shipping education with A.P. Moller-Maersk, Simon was posted in China for 4 years working with key aspects of logistics including freight forwarding, warehousing and distribution, airfreight and intermodal. Following his return to Denmark in 2003 he became the Global Head of Ocean Freight for Damco. In 2007, Simon moved to the US to head up Damco North America. In 2013 Simon took up a position as Global Head of Logistics for Central National-Gottesman Inc. (CNG) - one of the world's largest distributors of pulp, paper, packaging, tissue, newsprint and plywood. In his current position, Simon is responsible for managing the global logistics network for CNG including moving +50,000 containers of international freight as well as the global cargo insurance program for CNG.



Tim Knoll Senior Vice President, Operations, FreshDirect

Tim Knoll is the Senior Vice President of Operations for FreshDirect, the leader in on-line grocery. Tim is responsible for fresh food manufacturing, warehousing, distribution and delivery of the highest quality fresh food and groceries throughout FreshDirect's network spanning from Washington DC north through Connecticut. FreshDirect recently opened a 700K square foot, state of the art facility in the Bronx that Tim leads, along with its transportation division. Tim earned his MBA from the University of Georgia with a focus in Operations Management.



Tony Horton Vice President, Operations and Supply Chain Execution, IBM

As Vice President of Operations and Supply Chain Execution for IBM Systems, Tony is responsible for the global manufacturing, brand and market operations, as well as overall supply chain execution for IBM hardware and software products, accountable for global operations of 11 manufacturing and fulfillment sites worldwide.

Prior to this current role, Tony served as Director, IBM Z and Cognitive Systems Brand Operations, responsible for Brand revenue, inventory and cost for achievement of gross profit objectives and attainment of client experience metrics. His past roles include leadership positions in business partner channel, global demand forecasting, engineering and technical support.

Tony is also driving digital and AI transformation of IBM's supply chain leveraging emerging technologies to build a unique, transparent, intelligent and predictive end-to-end operation, delivering to clients across more than 170 countries. He is committed to advancing global leadership development, as well as excellence in skills development and education. He is recognized as a global supply chain thought leader, who delivers fast and impactful results in multi-cultural and complex environments.



Wendy Herrick Vice President Digital Supply Chain, Unilever

Wendy has 25+ years in Unilever and has held leadership roles across both Finance and Supply Chain. She started her career with Unilever in Bristol, England and has worked in numerous countries across Europe, Asia and the Americas. In 2015, Wendy was appointed to the position of VP Supply Chain US responsible for end to end Supply Chain integration, Supply Chain Digital Strategy and in-market business results. Wendy was appointed VP Global Digital Supply Chain in July 2018.

Wendy is a member of various groups and organizations including: Achieving Women's Excellence in SC Operations, Management and Education (AWESOME), Global Supply Chain Institute Advisory Board, Executive Sponsor of Veteran's Business Resource Group, and Vice Chair at the Domestic Violence Crisis Center (DVCC) in Connecticut. Wendy studied Chemical Engineering at the University of Lowell and holds a Chartered Institute of Management Accounting Professional Qualification.



Yone Dewberry Senior Vice President & Chief Supply Chain Officer, Land O'Lakes

Yone Dewberry is the SVP and Chief Supply Chain Officer for Land O'Lakes, Inc. In this role, Yone has responsibility for all elements of supply chain operations, including strategy, talent management, manufacturing, engineering, supply and demand planning, transportation, warehousing, quality, analytics, and procurement. Prior to this role, he served as Senior Vice President of Supply Chain and Procurement. He has brought tremendous value in changing Land O'Lakes distribution models, accelerating service collaboration, redefining transportation strategy and positioning in the art of innovation.

Columbia Participants



Abigail Talcott-Schlaifer Associate Director, W. Edwards Deming Center, Columbia Business School

As Associate Director, Abigail focuses on establishing and nurturing industry collaborations with CBS faculty and PhD students. She works on the development and writing of case studies in partnership with these companies to enhance the Business School curriculum and leads study tours for professors and students to have a firsthand view of their operations. She also administers the Center's Doctoral Fellowship Program which provides support to PhD students on an applied research project in conjunction with an industry partner under the guidance of a faculty advisor. Additionally, she spearheads the annual Deming Forum which provides professional development for industry partners on timely topics.

She joined Columbia Business School after 15 years at Different Roads to Learning, a company that develops and sells educational materials for children with autism. Prior to her tenure as COO at Different Roads to Learning, she held various positions in Sales, Marketing and Merchandising where she managed product development, inventory and selection of more than 700 products. Abigail holds a Bachelor of Arts degree in Anthropology from Brown University.



Angela Quintero Director, W. Edwards Deming Center, Columbia Business School

Angela Quintero joined Columbia Business School in 2013 and is the Director of the W. Edwards Deming Center for Quality, Productivity, and Competitiveness. She also serves as co-Director of the ECLA Program (Entrepreneurship and Competitiveness in Latin America), a program created exclusively for Latin American entrepreneurs looking to expand beyond borders. In this role, Angela is responsible for executing all aspects of the program, including recruitment of the entrepreneurs, curriculum design, faculty assignments, project oversight, and alumni relations

Prior to Columbia Business School, Angela worked in management consulting and market intelligence for more than 10 years. She worked for Booz Allen and Hamilton in the operations practice in the US as well as in Europe; and for Global Intelligence Alliance (GIA) as a director in the Hong Kong office. In 2003, while living in London, Angela founded her own firm importing flowers from South America and distributing them in Europe.

Angela holds a BS in Mathematics from Universidad de Los Andes in Colombia, an MS in Social Sciences from The University of Chicago, and an MS in Management Science Engineering from Stanford University.



Awi Federgruen Charles E. Exley Professor of Management; Chair of Decision, Risk, and Operations Division, Columbia Business School

A member of the Columbia faculty since 1979, Federgruen is the Charles E. Exley Professor of Management and the chair of the Decision, Risk, and Operations Division of Columbia Business School, where he served as senior vice dean from 1997-2002. He is a world renowned expert in the development and implementation of planning models for supply chain management and logistical systems, particularly in the areas of production, inventory, and distribution planning for supply chain management, and the design and analysis of operations strategies for service systems. Much of his recent work focuses on competition, coordination, and contracting within supply and service chains. He is also a prime contributor to various areas of quantitative methodology, in particular the areas of applied probability and queuing models, as well as the area of dynamic programming. A lot of his recent applied work deals with the development and implementation of marketing mix models and strategies, in particular in the pharmaceutical industry. Federgruen is the recipient of the 2004 Distinguished Fellowship Award by the Manufacturing, Service, and Operations Management society for Outstanding Research and Scholarship in Operations Management, and was elected a presidential Fellow of the INFORMS society, its highest award. He has also served as a principal consultant for the Israeli Air Force in the area of logistics and procurement policies.



Garud Iyengar Professor and Chair of Industrial Engineering And Operations Research
The Fu Foundation School of Engineering and Applied Science, Columbia University

Garud Iyengar's research is focused on understanding uncertain systems and exploiting available information using data-driven control and optimization algorithms. He and his students have explored applications in many diverse fields, such as machine learning, systemic risk, asset management, operations management, sports analytics, and biology

Iyengar's research group is currently working on thermodynamics of sensing and memory in cells, an automatic defensive assignment and event detection in NBA games, a deep neural-network-based framework for interpretable robust decision making, attribution schemes for allocating payment in a multi-channel advertising, systemic risk associated with extreme weather, and an NLP-based model for predicting stock performance using news reports.

Iyengar received a B Tech in electrical engineering from the Indian Institute of Technology in 1993 and a PhD in electrical engineering from Stanford University in 1998. He is a member of Columbia's Data Science Institute.



Medini Singh Senior Lecturer in Discipline in Business, Columbia Business School

Professor Singh joined Columbia Business School in 2001. He teaches a variety of courses in Columbia's MBA and Executive MBA programs, including the core course in Operations Management and electives in Supply Chain Management, Operations Strategy, and Service Operations Management. He also teaches regularly in executive education programs in top institutions in U.S., China, India and Latin America. Graduating MBA students selected him as the winner of the Singhvi Prize for Scholarship in the Classroom in 2015 for his dedication to teaching and ability to communicate knowledge. In 2011, he received the Dean's Award for Teaching Excellence.

His research focuses on service and supply chain design, at both the tactical and strategic level. Recently, he has been interested in the role of speed in competitiveness and in the risks and rewards of process outsourcing and off-shoring. His articles have appeared in leading journals, and he has served as associate editor of IIE Transactions and Production and Operations Management and on the editorial board of several journals. He also consults on a regular basis for Fortune 500 companies.

Professor Singh holds a B.E. in industrial engineering from the Indian Institute of Technology, Roorkee (India) and an M.E. in mechanical engineering, an M.S. in manufacturing and operations systems and a Ph.D. in industrial administration, all from Carnegie Mellon University, Pittsburgh.



Nelson Fraiman Professor of Professional Practice; Faculty Director, W. Edwards Deming Center, Columbia Business School

Following a 17-year career at International Paper Company, Fraiman joined Columbia Business School in 1995 as a professor in the Decision, Risk, and Operations division. As the director of the Deming Center, he has steered the center's programs to connect theory with practice in the area of operations. His research explores institutionalizing quality improvement, specializing in the retailing, consulting, and process industries.

Fraiman is the faculty director of Entrepreneurship and Competitiveness in Latin America (ECLA), a program designed for Latin American entrepreneurs who aim to be successful across borders. In addition, he has conducted executive education programs in Asia, Europe, Latin America, the Middle East, and the US. He received all his degrees—BS in industrial engineering, MS, MBA, and PhD—from Columbia University.

Columbia Participants



Omar Besbes Associate Professor of Business, Columbia Business School

Besbes' primary research interests are in the areas of data-driven decision-making with a focus on applications in e-commerce, pricing, and revenue management, online advertising, operations management, and service systems. His research has been recognized by the 2012 INFORMS Revenue Management and Pricing Section prize as well as the 2013 M&SOM best paper award. He serves on the editorial boards of Management Science and Operations Research.

He has taught core MBA courses in Operations Management and Business Analytics, an MBA elective on advanced Business Analytics, as well as various Ph.D. seminars on stochastic models, revenue management and data-driven decision-making. He is a recipient of the Dean's award for teaching excellence in the core at Columbia Business School.

Omar is a graduate of Ecole Polytechnique (France) and received an M.Sc. from Stanford University in 2000 and a Ph.D. from Columbia University in 2008. Before joining Columbia, he was on the faculty at the Wharton School, University of Pennsylvania.



Van-Anh Truong Associate Professor of Industrial Engineering and Operations Research, Columbia University

Van-Anh Truong designs and analyzes optimization methods for solving decision problems in information-rich and highly dynamic environments. She has worked on novel methods for solving core classes of models in Supply Chain Management, Healthcare, and Business Analytics, for example, the timing and sequencing of machine purchases in semiconductor manufacturing; the replenishment of vaccines in public stockpiles; the admission control of patients in healthcare facilities; the selection and framing of product assortments in e-commerce; and the dynamic optimization of mobile push ads in mobile commerce.

Of particular interest to Truong are real-time optimization problems that arise in large e-commerce, healthcare, and service applications. She has collaborated extensively with industry partners in these domains.

Truong received a Bachelor of Mathematics from the University of Waterloo in 2004 and a PhD in Operations Research and Industrial Engineering from Cornell University in 2007. She received an NSF Faculty Early Career Development (CAREER) Award in 2017.



Program Contact Information

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