

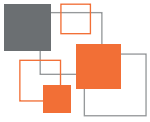


CRAFT

CENTER FOR RESEARCH TOWARD ADVANCING **FINANCIAL TECHNOLOGIES**

INDUSTRY ADVISORY BOARD MEETING
NOVEMBER 2-3, 2023





OVERVIEW

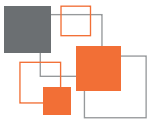


This meeting is jointly hosted by Bank of America, Rensselaer Polytechnic Institute and Stevens Institute of Technology. CRAFT is an industry-university cooperative research center funded by the National Science Foundation.

Featuring:

- Welcome addresses by CRAFT and Bank of America leadership
 - Keynote addresses by the United Nations, Imperial College and UK Fin+
 - Panel discussions on Fintech Innovation and Commercialization and Workforce Development, Diversity, Equity and Inclusion
 - Academic presentation by University of Manchester
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- CRAFT Industry Advisory Board meetings are bi-annual and take place on a Spring/Fall cycle. Fintech research project proposals will be presented at each meeting during Day 1 and then discussed, voted on, and selected by the Industry Advisory Board on Day 2 during a closed session. During the closed session, current CRAFT projects will also present their research findings.
 - To become a CRAFT Industry Partner, or to learn more about the Center, please contact CRAFT@Stevens.edu.

CRAFT is the first I/UCRC focusing on Fintech research and innovation to bring together academic and industry participants, as well as representatives from all levels of government, and support the agenda of advanced research projects related to the Fintech challenges of the financial services industry.



AGENDA: THURSDAY, NOVEMBER 2

- 8:30 - 9:30 A.M. **Registration, Breakfast, and Networking**
- 9:30 - 9:40 A.M. **CRAFT Director, Co-Director and Managing Director: Welcome from Stevens + RPI**
- **Dr. Steve Yang**, CRAFT Director, Associate Professor, Stevens Institute of Technology, School of Business
 - **Dr. Aparna Gupta**, CRAFT Co-Director and Site Director, Associate Dean of Academic Affairs, Professor, Rensselaer Polytechnic Institute, Lally School of Management
 - **Dr. George Calhoun**, CRAFT Managing Director, Program Director, Quantitative Finance, Professor, Stevens Institute of Technology, School of Business
- 9:40 - 10:00 A.M. **Welcome From Bank of America**
- **Graeme Muirhead**, Managing Director, Head of Technology Transformation Programs
- 10:00 - 10:30 A.M. **Keynote: United Nations “Fintech Fundamentals and Their ESG Applicability in Driving Market-Share Growth”**
- **Randy Delbert Letang**, Chairman/President/CEO/Founder, SGP BioEnergy
- 10:30 - 11:00 A.M. **Keynote: UK Fin+ “UK Fintech Landscape”**
- **Maggie Chen**, Personal Chair, Professor of Financial Mathematics at Cardiff University, UK Fin+ Director
 - **Karen Elliott**, Chair (Full Professor) of Practice in Finance at University of Birmingham Fintech Business School, UK Fin+ Director
 - **Sheena Robertson**, University of Birmingham, School of Computer Science, UK Fin+ Project Manager
- 11:00 - 11:15 A.M. **BREAK**
- 11:15 - 12:00 P.M. **Panel Discussion: Fintech Innovation and Commercialization**
- Moderator: **Paul Lashmet**, Business Integration Architect, Park Avenue Finance
 - Guests:
 - **Nathan Pierce**, Founder and CEO, Park Avenue Finance
 - **John Short**, Senior Vice President, Business Development Manager, Bank of America
 - **Jeff Stewart**, Managing Director, GPO Fund
- 12:00 - 12:15 P.M. **Academic Presentation: University of Manchester**
- **Jian-bo Yang**, Chair in Decision and System Sciences at the Alliance Manchester Business School and Director of the Decision and Cognitive Sciences Research Centre
 - **Karim Derrick**, Chief Products Officer, Kennedys IQ
- 12:15 - 1:15 P.M. **LUNCH**
- 1:15 - 1:45 P.M. **Keynote: Imperial College - Decentralized Finance and CBDC**
- **Gilles Chemla**, Professor of Finance at Imperial College Business School, Co-Director of Imperial's Centre for Financial Technology



AGENDA: THURSDAY, NOVEMBER 2

1:45 - 3:00 P.M.

CRAFT Research Project Proposal Presentations | Chair: Aparna Gupta

1:45 - 2:00 P.M.

Research Proposal 1: “Unpacking Failed Big-Ticket M&A: Exploring Behavioral Characteristics and Decision-Making Dynamics Using Deep Learning Models”

• Suman Banerjee, Associate Professor, Stevens Institute of Technology, School of Business

2:00 - 2:15 P.M.

Research Proposal 2: “Large Transaction Models for Fintech”

• Kristin Bennett, Professor, Rensselaer Polytechnic Institute, Lally School of Management

2:15 - 2:30 P.M.

Research Proposal 3: “A Next Generation AI-Powered Financial Advisor”

• Jacek Ossowski, Teaching Associate Professor, Stevens Institute of Technology, Charles V. Schaefer Jr. School of Engineering and Science

2:30 - 2:45 P.M.

Research Proposal 4: “Semantically Enhanced Graph Neural Networks for Event-Driven Financial Impact Analysis”

• Mohammed Zaki, Professor and Department Head of Computer Science, Rensselaer Polytechnic Institute

2:45 - 3:00 P.M.

Research Proposal 5: “An Initial Framework to understand Financial Systems Resilience”

• Jose Ramirez-Marquez, Associate Professor, Stevens Institute of Technology, School of Systems Enterprise

3:00 - 3:15 P.M.

BREAK

3:15 - 4:00 P.M.

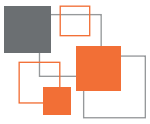
Panel Discussion: Workforce Development, Diversity, Equity, Inclusion

- Eric Leininger, Executive Director, Financial Research & Product Development, CME Group
- Kumar Bhaskaran, Global Innovation & Technology Scout, Office of CTO, IBM Cloud
- Michael Oliver, Senior Talent Acquisition Americas, SWIFT
- Eric Brubaker, Senior R&D Manager, Charles Schwab

4:00 - 5:30 P.M.

Reception





AGENDA: FRIDAY, NOVEMBER 3 (CLOSED SESSION)

8:30 - 9:30 A.M.

Breakfast & Networking

9:30 - 10:30 A.M.

CRAFT IAB Administrative Matters

10:30 - 10:50 A.M.

Project 1 Presentation: “Blockchain Interoperability for Business Organizations”

- PI: **Oshani Seneviratne**, Assistant Professor, Rensselaer Polytechnic Institute, School of Science
- Co-PI: **Aparna Gupta** (RPI)
- Team Members: **Inwon Kang** (RPI Ph.D. Student), **Tripp Lyons** (RPI Undergraduate Research Student)

10:50 - 11:10 A.M.

Project 2 Presentation: “Extending, Simulating and Scaling Decentralized Exchanges Made by Automated Market Makers”

- PI: **Zachary Feinstein**, Assistant Professor, Stevens Institute of Technology, School of Business
- Co-PI: **Ivan Bakrac** (Stevens), **Ionut Florescu** (Stevens)

11:10 - 11:30 A.M.

BREAK

11:30 - 11:50 A.M.

Project 3 Presentation: “Efficient, Private, and Explainable Federated Learning for Financial Crime Detection”

- PI: **Stacy Patterson**, Associate Professor, Rensselaer Polytechnic Institute, School of Science
- Co-PI: **Oshani Seneviratne** (RPI)
- Team Members: **Md Saikat Islam Khan Bappy**, (RPI Ph.D. Student)

11:50 - 12:10 P.M.

Project 4 Presentation: “Systemic Risk Implications of Central Bank Digital Currencies”

- PI: **Zachary Feinstein**, Assistant Professor, Stevens Institute of Technology, School of Business
- Co-PI: **Rui Fan** (Stevens), **Stephen Taylor** (Stevens)

12:10 - 1:00 P.M.

LUNCH

1:00 - 2:00 P.M.

Industry Advisory Board Members Closed Session

2:00 - 2:30 P.M.

IAB Chair and Vice Chair Report to CRAFT ALT

2:30 P.M.

Adjourn



CENTER DIRECTORS



Dr. Steve Yang

CRAFT Director, Associate Professor, Stevens Institute of Technology, School of Business

Dr. Steve Yang's research has been focused on understanding markets' irrationality and impact on trading, portfolio, risk management, and systemic risk using decision science tools such as Markov decision processes, reinforcement learning and other artificial intelligence (AI) methods. He holds a B.S. degree in aerospace engineering from the Beijing Institute of Aeronautics and Astronautics and a Ph.D. in systems and information engineering from University of Virginia with concentration in financial engineering.



Aparna Gupta

CRAFT Co-Director and Site Director, Associate Dean of Academic Affairs, Professor, Rensselaer Polytechnic Institute, Lally School of Management

Aparna Gupta is a professor of quantitative finance at Rensselaer Polytechnic Institute. Dr. Gupta also serves as the Associate Dean for Academic Affairs of the Lally School of Management at RPI. Dr. Gupta was a visiting researcher at US SEC in Washington DC for three years. Her research interest is in financial decision support, risk management, and applying mathematical modeling, machine learning and financial engineering techniques for risk management in technology-enabled network services, as well as risk management in the inter-connected financial institutions and financial markets. She has worked on several US NSF, US DoE funded research projects in financial innovations for risk management.



Dr. George Calhoun

CRAFT Managing Director, Program Director, Quantitative Finance, Professor, Stevens Institute of Technology, School of Business

Dr. George Calhoun is a Co-Founder of InterDigital Communications Corporation (NASDAQ: IDCC), which currently has a market cap of \$1.5 billion. He was vice chairman of Geotek Communications, and was chairman of the company's joint venture with a branch of the Government of Israel. Dr. Calhoun was the chairman and CEO of Illinois Superconductor Corporation (AMEX: ISO), a public company focused on the application of high-temperature superconducting materials and advanced signal processing techniques.



SPEAKERS



Graeme Muirhead, Head of Technology Transformation Programs

Graeme Muirhead has been with Bank of America for 16 years in multiple roles. Prior to his current role, he served as the Head of Enterprise Architecture Engineering. From 2018 until 2020, Graeme served as the Technology Executive for Global Banking and Markets and Enterprise Risk & Finance Technology Architecture, Strategy and Core platforms.



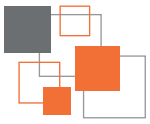
Randy Delbert Letang, Chairman/President/CEO/Founder, SGP BioEnergy

Randy Delbert Letang currently serves as President and CEO of SGP BioEnergy, an integrated bioenergy products development company serving a global customer base and driving tangible solutions and thought leadership through developing industrial projects that leverage existing infrastructure and create industrial, economic and humanitarian impact. Randy is responsible for overall global bioenergy business strategy, supply chain development and execution.



Maggie Chen, Personal Chair, Professor of Financial Mathematics at Cardiff University, UK Fin+ Director

Professor Maggie Chen is a Professor of Financial Mathematics at Cardiff University, School of Mathematics. Her current research focuses on Fintech, financial markets, microstructure, financial networks, financial jumps and contagion. She is editor of the European Journal of Finance (EJF), IMA Journal of Management Mathematics and of special issues for EJF and Quantitative Finance in *Hawkes processes in Finance*.



SPEAKERS



Karen Elliott,
Chair (Full Professor) of Practice at University of Birmingham, Finance and Fintech Business School | UK Fin+ Director
Professor Karen Elliott is Chair (Full Professor) of Practice in Finance and Fintech at Birmingham University Business School and Co-Director of the Fintech MSc Degree Programme. She has been named as 'Standout #35 Women in FinTech Powerlist' by Innovate Finance for Policy and Governance 2019, 2020 and listed for the new Hubs (governance) category in 2021.



Jian-bo Yang
Professor, Chair in Decision and System Sciences at the Alliance Manchester Business School, Director of the Decision and Cognitive Sciences Research Centre
Dr Jian-Bo Yang is Chair Professor of Decision and Systems Sciences at Alliance Manchester Business School, The University of Manchester, UK. His current applied research covers a range of applications driven by historical data, enabled by human knowledge and powered by evidential reasoning. He is the principal investigator or co-investigator for over 70 research projects at a total value of over £21m.



Paul Lashmet,
Business Integration Architect, Park Avenue Finance
Paul Lashmet is a Business Integration Architect with expertise in orchestrating global strategic programs across the financial services landscape, including capital markets, investment banking, mortgage, retail banking and wealth management. At Park Avenue Finance, Paul focuses on the continual improvement and optimization of business and operational processes and procedures, primarily through the development and distribution of learning content and knowledge management.



Sheena Robertson,
University of Birmingham, School of Computer Science | UK Fin+ Project Manager
Sheena Robertson is the Project Manager for UKFin+, bringing extensive breadth and depth of research and engagement experience to the network. Sheena has worked internationally in Hong Kong, Malaysia and Thailand supporting academic and industry collaborations in the manufacturing sector, as Head of Programmes at Warwick Manufacturing Group.



Karim Derrick,
Chief Products Officer, Kennedys IQ
Karim Derrick serves as Chief Products officer at Kennedys IQ, the client-facing technology arm of Kennedys LLP, creating 'baked in legal' technology products for use by financial services clients. With a technology background spanning 20 years, Karim has journeyed from his roots as a product manager to leading global development teams, and steering venture-funded tech enterprises.



Gilles Chemla,
Professor of Finance at Imperial College Business School, Co-Director of Imperial's Centre for Financial Technology
Gilles is a Professor of Finance at Imperial College Business School and Co-Director of Imperial's Centre for Financial Technology. He is also a research fellow at Centre National de la Recherche Scientifique, a research fellow at Centre for Economic Policy Research (CEPR) and a senior research fellow at the Rimini Centre for Economic Analysis (RCEA).



Nathan Pierce,
Founder & CEO at Park Avenue Finance
Mr. Pierce is an expert in designing complex financial innovation. During the course of his financial innovation career, he has been responsible for the design or execution, usually both, of more than 30 unique financial products, services and architectures. These innovative solutions have collectively unlocked more than \$4 billion of otherwise trapped value.



Michael Oliver,
Senior Talent Acquisition Americas, SWIFT
Michael Oliver is an AGILE certified senior talent acquisition strategist HR AMERICA, LATAM, LAC, AM-UK and senior HR at Swift, leveraging more than eight years of headhunting and talent acquisition within Fintech and financial services.



John Short,
Senior Vice President, Business Development Manager, Bank of America
John Short is a Business Development Manager for the Technology Partnership Development (TPD) team at Bank of America in the Global Technology & Operations organization. John focuses on Consumer, Small Business, and Wealth Technology and themes such as digital identity, payments, and digital client experience. He has been with Bank of America in various roles since 2009.



Kumar Bhaskaran,
Global Innovation & Technology Scout, Office of CTO, IBM Cloud
Dr. Kumar Bhaskaran is financial services technology and innovation leader for IBM Infrastructure and Cloud Industry Platforms. Kumar is an IBM Master Inventor and has more than 30 years of experience in leading R&D teams including leading the Financial Services Research globally for IBM and as the Head of Research in Singapore responsible for creating the first public-private partnership on Blockchain innovations.



Jeff Stewart,
Managing Director, GPO Fund
Jeff Stewart is an investor, serial entrepreneur, and inventor with experience scaling technology-enabled international businesses. Jeff is a Managing Director of the Global Public Offering Fund, which he co-founded to invest in founder-led, growth stage, technology companies. The GPO Fund specializes in private companies that can substantially benefit from accelerating international expansion and being public.



Eric Leininger,
Executive Director, Financial Research & Product Development, CME Group
Eric Leininger joined CME Group during the depths of the COVID-19 crisis and helped the Financial RPD team cover the initiatives and content of Listed Rates, BrokerTec, Equity Indexes and Alternatives including our contracts and indexes on cryptocurrencies. Today, the team is busy on the next wave of initiatives including TBA futures, ESTR futures, Event Contracts, and additional evolving strategic launches.



Eric Brubaker,
Senior R&D Manager, Charles Schwab
Eric Brubaker is a Senior Manager at Charles Schwab with 30 years of industry experience. Eric has been instrumental in starting several new initiatives for Schwab, most recently the N.E.R.D. program and R&D organization. Eric has passion around Financial Literacy and teaches Introduction to Finance at the company.



Founded in 1824, Rensselaer Polytechnic Institute is America's first technological research university. Rensselaer encompasses five schools, over 30 research centers, more than 140 academic programs including 25 new programs, and a dynamic community made up of over 6,800 students and over 104,000 living alumni. Rensselaer faculty and alumni include upwards of 155 National Academy members, six members of the National Inventors Hall of Fame, six National Medal of Technology winners, five National Medal of Science winners, and a Nobel Prize winner in Physics. With nearly 200 years of experience advancing scientific and technological knowledge, Rensselaer remains focused on addressing global challenges with a spirit of ingenuity and collaboration. To learn more, please visit www.rpi.edu.



School of Business

Stevens Institute of Technology is a premier, private research university situated in Hoboken, New Jersey, overlooking the Manhattan skyline. Since its founding in 1870, technological innovation has been the hallmark of Stevens' education and research. Within the university's three schools and one college, 7,300 undergraduate and graduate students collaborate closely with faculty in an interdisciplinary, student-centric, entrepreneurial environment. Academic and research programs spanning business, computing, engineering, the arts, and other disciplines actively advance the frontiers of science and leverage technology to confront our most pressing global challenges.

