

Contributors



Charles Bretz

Director of Payment Risk, Financial Services Information Sharing and Analysis Center

Mr. Bretz supports FS-ISAC's Payment Processor Information Sharing Council and Payment Risk Council. In this role he coordinates the Cyber Attack Against the Payment Process exercises.

Mr. Bretz has more than 20 years of executive management experience with a major regional U.S. bank in online sales, online service delivery, mobile banking and bank cards. He has been a member of the board of directors of NACHA-The Electronic Payments Association.

Mark Carney

Vice President, Strategic Programs, FireMon

Mr. Carney is involved with strategic programs that affect companywide initiatives surrounding product development, sales, marketing, professional services, channel partnerships and business operations. Prior to joining FireMon, he was vice president of strategic services at FishNet Security, where he built and led a national group of security advisers.

Mr. Carney spent more than 12 years at FishNet and was the primary executive liaison between FishNet and the card brand Qualified Incident Response Assessor/Qualified Forensics Investigator programs, as well as the PCI Security Standards Council and Forensic Investigation Program around post data breach engagements and reporting. He is a frequent speaker at security conferences and has published several articles.

Robert Carr

Chief Executive Officer, Heartland Payment Systems

Mr. Carr co-founded Heartland Payment Systems in 1997 and has been chief executive officer of the company since 2000. He also is chairman and CEO of Carr Holdings LLC. Heartland, one of the world's largest payments processing companies, has grown from 25 employees in 1997 to more than 3,000.

Mr. Carr started his career as a professor, president of the faculty and director of the computer center at Parkland College in Champaign, Ill., before moving to the Bank of Illinois. In 1987 he founded Credit Card Software Systems Inc., which specialized in the travel and entertainment industries. The MidWest Acquirers Association recognized Mr. Carr in 2003 with its first "Lifetime Achievement Award." Ernst and Young recognized him with its "Entrepreneur of the Year Award" in 2004 and 2007.

Marianne Crowe

Vice President, Federal Reserve Bank of Boston

Ms. Crowe is a vice president in Treasury and Financial Services, where she serves as the Mobile Payments Project manager and payments liaison to the Consumer Payments Research Center.

Ms. Crowe's previous roles at the Boston Fed include vice president/project manager in the Consumer Payments Research Center, assistant vice president of business development, the National Image Archive service and the Boston check operations. Prior to joining the Fed in 2000, she worked at BankBoston. Ms. Crowe has been a member of the FSTC mobile payments workgroup and the NACHA Internet Council.

Kelly J. Dubbert

First Vice President and Chief Operating Officer, Federal Reserve Bank of Kansas City

Mr. Dubbert is responsible for the Bank's operations and budget administration. Among the areas for which he has direct oversight are Information Technology, Financial Services and Check Automation Services. Previously, Mr. Dubbert was senior vice president and chief information officer over the Bank's Information Technology Division.

Mr. Dubbert has participated in numerous Federal Reserve System information technology leadership groups and was co-chair of the Technology Services Council, a group representing all Reserve Bank and national business line CIOs. He has also served as a liaison member to the Business Technology Council and the Information Technology Oversight Committee.

Peter Fonash

*Chief Technology Officer, Office of Cybersecurity and Communications,
Department of Homeland Security*

Mr. Fonash is chief technology officer for the Office of Cybersecurity and Communications in the Department of Homeland Security. He has been a member of the Senior Executive Service since 1998. He assumed his current role after serving as deputy manager and director of the National Communications System.

Mr. Fonash also was the chief with the Defense Information System Agency Joint Combat Support Applications Division. Prior to working for the federal government, Mr. Fonash worked for AT&T and Burroughs Corp. (Unisys).

Liz Garner

Vice President, Merchant Advisory Group

Ms. Garner focuses on industry affairs and advancing the Merchant Advisory Group's mission of positive change in payments through collaboration.

Ms. Garner previously was director of commerce and entrepreneurship at the National Restaurant Association, where she represented the restaurant and foodservice industry before Congress and federal regulatory agencies on issues including retail and mobile payments, data security and emerging technologies. She also was director of government relations for the Food Marketing Institute (FMI) and was the staff liaison to the FMI Electronic Payments Committee.

Esther L. George

President and Chief Executive Officer, Federal Reserve Bank of Kansas City

Ms. George has been president and CEO of the Bank since 2011. She is a member of the Federal Open Market Committee, which has authority over U.S. monetary policy. She also hosts the Bank's annual Economic Policy Symposium in Jackson Hole, Wyo. Prior to her appointment as president, Ms. George had been the Bank's chief operating officer since August 2009.

Ms. George joined the Bank in 1982 and has worked much of her career in the Division of Supervision and Risk Management, including 10 years as the Tenth Federal Reserve District's chief regulator. In that capacity, she was directly involved in the Tenth District's banking supervision and discount window lending activities during the banking crisis of the 1980s and post-9/11.

Chris Hamilton

Executive Director, Australian Payments Clearing Association

Mr. Hamilton has been executive director and chief executive officer of the Australian Payments Clearing Association (APCA) since 2006. APCA is a

self-regulatory body and industry association for Australian payments. It provides the venue for banks, non-bank financial institutions, large merchants and many others engaged in the Australian payments system to work together on its efficient operation and future enhancement.

Prior to this appointment, Mr. Hamilton spent 11 years at the Australian Stock Exchange (ASX) in a variety of roles. He worked at the ASX throughout the transition from a stockbrokers' mutual into the world's first self-listed stock exchange.

Fumiko Hayashi

Senior Economist, Federal Reserve Bank of Kansas City

Ms. Hayashi is a senior economist in the Payments System Research Department at the Federal Reserve Bank of Kansas City. Since joining the Federal Reserve in 2001, Ms. Hayashi has published studies on the ATM and debit card industry, regulatory developments around interchange fees and card network rules, consumer payment choice, mobile payments and nonbanks in the payments system. Her current research focuses on the use of general purpose reloadable prepaid cards, implications of recent regulations and litigations in the payment card industry for industry participants and end users, and the security of the payments system.

Prior to joining the Bank, Ms. Hayashi conducted research examining consumer savings and long-term care insurance, social security reform in Japan and nursing home markets in the United States.

Sandra Kennedy

*Co-Chair, Merchant Financial Services Cybersecurity Partnership;
President, Retail Industry Leaders Association*

Ms. Kennedy is co-chair of the partnership, which consists of payments system organizations such as retailers, banks, card companies and security and technology vendors. The partnership recently released recommendations outlining new ways companies can use technology to minimize data theft and reduce the value of stolen payment information.

Ms. Kennedy also is president of the Retail Industry Leaders Association (RILA), a position she has had since 2002. She also is a member of the White House Advisory Committee for Trade Policy and Negotiations. Prior to joining RILA, Ms. Kennedy was director of the Leadership Dialogue Series for Accenture and was senior vice president of membership services for the National Retail Federation.

Tracy Kitten

Executive Editor, BankInfoSecurity and CUInfoSecurity, Information Security Media Group

Ms. Kitten has more than 16 years of experience as a journalist and has covered the financial sector for the last nine years. Since 2010, she has been part of Information Security Media Group, where she is executive editor of BankInfoSecurity and CUInfoSecurity.

Ms. Kitten previously covered the financial self-service industry as the senior editor of ATMmarketplace, part of Networld Media Group. She has been a regular speaker at domestic and international conferences.

Adam Levitin

Professor of Law, Georgetown University Law Center

Mr. Levitin teaches courses in consumer finance, structured finance, contracts, bankruptcy and commercial law. He also is a member of the Consumer Financial Protection Bureau's Consumer Advisory Board. He previously was the Bruce W. Nichols Visiting Professor of Law at Harvard Law School, the Robert Zinman Scholar in Residence at the American Bankruptcy Institute and Special Counsel to the Congressional Oversight Panel supervising the Troubled Asset Relief Program.

Before joining the Georgetown faculty, Mr. Levitin practiced in the Business Finance & Restructuring Department of Weil, Gotshal & Manges LLP in New York. Among other honors, in 2013 Mr. Levitin received the American Law Institute's Young Scholar's Medal.

Vernon Marshall

Functional Risk Officer, American Express

Mr. Marshall leads a team of more than 250 risk professionals and is responsible for decision science for all of the company's consumer and commercial products, fraud protection, central rating and underwriting and global credit bureau functions.

Mr. Marshall has been with American Express for more than 25 years and has had various positions in risk management and technologies in the United States and Europe. Prior to his current position, Mr. Marshall was chief credit officer for OPEN, Global Corporate Payments and Global Merchant Services and chaired the Institutional Risk Committee.

Tyler Moore

Assistant Professor, Southern Methodist University

Mr. Moore is an assistant professor of computer science and engineering at Southern Methodist University. His research focuses on the economics of information security, the study of electronic crime and the development of policy for strengthening security. He directs the Security Economics Lab within the High Assurance Computing and Networking Labs, a research group of faculty and students working in areas related to security.

Mr. Moore was a director and vice president of the International Financial Cryptography Association from 2011 to 2014. He also is editor in chief of the new *Journal of Cybersecurity*.

Anjan Mukherjee

Counselor to the Secretary and Deputy Assistant Secretary for Financial Institutions, U.S. Department of the Treasury

Mr. Mukherjee is counselor to the secretary and deputy assistant secretary for financial institutions. He is an adviser on matters related to financial institutions and markets, and oversees the Office of Financial Institutions Policy, the Office of Critical Infrastructure Protection and the Federal Insurance Office.

Prior to joining the Treasury, Mr. Mukherjee was a senior managing director at Blackstone Group LP, an investment management firm, where he served on the investment committee. Mr. Mukherjee had posts at Thomas H. Lee Co., Morgan Stanley and the U.S. Department of Education prior to joining Blackstone in 2001. In 2008, he was part of President Barack Obama's Transition Team, focusing on matters of economics and international trade.

Nancy O'Malley

*Chief Payment System Integrity Officer, MasterCard Worldwide;
Member, Payments Security Task Force*

Ms. O'Malley is responsible for the development and execution of information and network security functions and the detection and prevention of global fraud. Her responsibilities include: providing strategic information and advice to inform MasterCard safety and security strategy; regulatory relations and strategy as it relates to fraud; management of the chief information security officer function; developing new fraud products, solutions and services; and guiding the development and adoption of industry standards to prevent fraud including mobile strategy, tokenization, POS terminals, ATMs and payment cards.

Ms. O'Malley is a member of the Payments Security Task Force, a cross-industry group focused on driving executive-level discussion to enhance security of the payments system.

Jerome H. Powell

Governor, Board of Governors of the Federal Reserve System

Mr. Powell joined the Board of Governors in 2012, filling an unexpired term. He was reappointed in 2014, for a term ending in 2028. Prior to his appointment to the Board, Mr. Powell was a visiting scholar at the Bipartisan Policy Center in Washington, D.C., where he focused on federal and state fiscal issues. From 1997 through 2005, Mr. Powell was a partner at The Carlyle Group.

Mr. Powell served as an assistant secretary and as undersecretary of the Treasury under President George H.W. Bush, with responsibility for policy on financial institutions, the Treasury debt market and related areas. He previously was a lawyer and investment banker in New York City.

Steve Schmalz

Solution Architect, RSA, The Security Division of EMC

Mr. Schmalz assists organizations in understanding their security architecture needs and how RSA's security products can help protect their critical infrastructure. Mr. Schmalz has spoken at multiple venues on topics ranging from standards compliance to cryptography. He is a longtime participant in ASC X9 and is a member of X9 F6, where he is technical editor for a new tokenization standard.

Before joining RSA, he was director of business development at Quantrad, a biometrics vendor. He also worked for the National Security Agency as a cryptographic mathematician.

Alexandre Stervinou

Deputy Head, Payment Oversight Division, Banque de France

Mr. Stervinou mostly deals with policy and oversight matters both at national and European levels. His division, created in 2002, has developed expertise in payment fraud and security and is in charge of issuing recommendations to payment service providers to improve the security of retail payments. He is also secretary of the Observatory for Payment Card Security and secretary of the national committee in charge of the European SEPA project.

Mr. Stervinou represents Banque de France at the European forum on the Security of Retail Payments (SecuRe Pay). Prior to this role, he had various private-sector positions in which he focused on security solutions mainly for the financial services and telecom industries.

Richard J. Sullivan

Senior Economist, Federal Reserve Bank of Kansas City

Since joining the Federal Reserve in 1994, Mr. Sullivan has completed a number of studies on the retail payments industry and on the banking industry. Topics of recent publications include the effect of computer chip payment cards on payment fraud and how regulation of interchange fees on debit cards affects the fee structure of checking accounts. His research has appeared in Federal Reserve publications and in academic journals such as the *Journal of Financial Intermediation*, *Journal of Banking and Finance*, *Economica*, and the *Journal of Economic History*. He is on the editorial board of the *Workshop on the Economics of Information Security*.

Prior to joining the Bank, Mr. Sullivan taught at Holy Cross College and the University of Colorado.

Radha Suvarna

Managing Director, Head of U.S. Emerging Payments, Citi Cards, Citibank; Member, Tokenization Subcommittee, X9

Mr. Suvarna leads the Emerging Payments group, which is responsible for development of emerging payments strategies and solutions for the credit card business, including mobile payments, proximity and remote commerce solutions. He also is a member of the X9 Tokenization Subcommittee.

Mr. Suvarna has a diversified background in credit cards, payments and managing various functions and businesses, including emerging payments, new product development and credit cards product and portfolio management across multiple countries.

Chrissanthos Tsiliberdis

Senior Market Infrastructure Expert, European Central Bank

Mr. Tsiliberdis is a member of the Oversight Division, where he has been responsible for overseeing various payment systems (CLS, EURO1/STEP1/STEP2), card payment schemes, payment instruments (SEPA Direct Debit and Credit schemes, PayPal, etc.) and SWIFT. He also is the responsible expert for operational risk oversight policy issues and coordinated the drafting of Eurosystem oversight policies on business continuity for SIPS, the oversight standards for card payment schemes.

Previously, he was involved in the cooperative oversight arrangements for the oversight of the card payment schemes, CLS and the implementation of the Eurosystem's High Level Group on SWIFT Oversight, of which he is the secretary. He has represented the ECB in various CPMI-IOSCO working groups such as the legal entity identification implementation group and the cyberresilience group.

Madhu Vasu

Senior Director, Innovation and Strategic Partnerships, Visa Inc.

Ms. Vasu has 18 years of experience in the payments and business intelligence industries, catering to financial services. Her focus has been on initiating early stage concepts and building solutions in e-commerce and the mobile space both in the United States and emerging markets.

Ms. Vasu previously was a senior consultant at MicroStrategy for four years and a consultant for two years at Procter & Gamble.

Coen Voormeulen

*Director of the Cash and Payments Division, De Nederlandsche Bank;
Co-Chair, Working Group for Cyber Resilience, BIS*

Mr. Voormeulen is responsible for bank notes and noncash in terms of policy, operations and oversight at De Nederlandsche Bank. He is a member of the Committee for Payments Systems and Market Infrastructures (CPMI) and co-chair of its Working Group for Cyber Resilience.

Mr. Voormeulen formerly was chair of CPMI's cybersecurity working group, a member of the Payments and Settlements Systems Committee of the European System of Central Banks and chair of the Dutch National SEPA Task Force. He also is a member of the board of the Dutch Payments Society and of the Supervisory Board of Geldservice Nederland, a company that processes bank notes.

Liz Votaw

*Senior Vice President, Bank of America;
Board of Directors, Fast IDentity Online Alliance*

Ms. Votaw is a senior vice president in OmniChannel Authentication Strategy, where she develops and drives customer-focused authentication strategies to deliver secure and convenient banking. Ms. Votaw also represents Bank of America as a member of the board for the Fast IDentity Online Alliance.

Ms. Votaw previously worked in Innovation at Bank of America, developing concepts across the enterprise, and is the inventor on 12 granted patents, with 25 patents pending. Her career at the bank includes 25 years of leadership positions in operations, technology, fraud prevention, risk and innovation.

Gordon Werkema

Payments Strategy Director, Federal Reserve Bank of Chicago

Mr. Werkema is responsible for leading major payment system improvement initiatives described in the Federal Reserve's recently published paper "Strategies for Improving the U.S. Payment System." In his 34-year career,

Mr. Werkema has been first vice president and chief operating officer of the Federal Reserve Bank of Chicago and executive vice president of the Federal Reserve Bank of San Francisco.

Mr. Werkema was a member of the executive team that developed the strategies paper. He will lead the Federal Reserve's strategies related to faster payments, payments security and stakeholder engagement, collaborating with the Federal Reserve's current financial services product leaders to execute the full complement of strategies outlined in the paper.

Branden R. Williams

Chief Technology Officer, Cyber Security Solutions, First Data Corp.

Mr. Williams has almost 20 years of experience in business strategy, information technology and security and payments, finding solutions that move companies ahead while reducing risk. He is a co-author of three books on PCI compliance.

Mr. Williams previously was director of consulting at VeriSign and a chief technology officer at RSA, The Security Division of EMC. He also has been a member of the PCI Board of Advisors.

Jonathan Williams

Director of Strategic Development, Experian

Mr. Williams is a strategist with a broad background in payments, networking and telecommunications, real-time systems, security, encryption and authentication. At Experian, he is responsible for innovation, industry relations and strategic projects for the identity and fraud group. He speaks at industry conferences worldwide.

Mr. Williams previously was European business development manager for Fujitsu Telecom and had engineering and IT roles at British Aerospace (now BAE Systems), the University of Cambridge and Advanced Telecommunications Modules Ltd. He also had senior marketing roles at Virata Corp. and Content Technologies (now Clearswift).