Frederick (Rick) W. Ryan, Jr

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PROFESSIONAL SUMMARY

Rick Ryan is a Pitney Bowes Fellow in the Strategic Technology and Innovation Center at Pitney Bowes. His research areas include Security, Internet of Things and Blockchain technology. Rick was instrumental in the development of SmartLink™, an IoT product which connects existing customers postage to the Pitney Bowes Commerce Cloud. He is the security architect of Clarity™, an Industrial Internet Platform for Pitney Bowes' large mail processing equipment. Rick played a key role in the development, assessment and approval of postage evidencing security architectures. He led the first certification of a smart card under the NIST FIPS 140 Cryptographic Module Validation Program and authored the security sections of the Universal Postal Union "Digital Postage Mark" and "Digital Postage Mark Supporting Infrastructure" standards. Rick chaired the Security and Privacy Working Group for Dossia, a Personally Controlled Health Record system. He is the Principal Architect of the Secure Evidencing Platform which repurposed Pitney Bowes' metering security and lifecycle management capabilities for use in other markets. Rick holds more than 120 US Patents. His other research activities include application of secure coprocessors, side channel attacks, secure printing architecture design, and security infrastructure design and assessment.

PROFESSIONAL EXPERIENCE

Pitney Bowes, Inc.
1987-Present

Pitney Bowes Fellow
2013-Present
- Currently Leading Blockchain research at Pitney Bowes
- Led concept development and security analysis of SmartLink, IoT platform
- Security Architect of Clarity Industrial Internet Platform
- Chief Architect of a Secure Evidencing Platform to extend Pitney Bowes security capabilities for use by third parties
- Security Architect of Online Postage Evidencing System (currently in use by eBay)
- Developed a Security Evaluation Method for Postage Evidencing Systems that is Used by the - USPS and incorporated into International Universal Postal Union standards
- Led successful evaluation of the first FIPS 140-1 (Security Requirements for Cryptographic Modules) certificate award for a postage meter and a smart card (Certificate #30)

Principal Fellow *2007-2013*	**Fellow** *2001-2003*
Senior Fellow *2003-2007*	**Engineer, Staff Engineer, Senior Engineer, Principal Engineer** *1987-2001*

EDUCATION AND PROFESSIONAL DEVELOPMENT

Bachelor of Science *1987*	**Massachusetts Institute of Technology** Cambridge, MA

HONORS AND AWARDS

- IoT Solutions World Congress, Best Business Transformation Solution, SmartlinkTM team member, 2016
- Pitney Bowes Disruptive Innovation of the Year Award, 2016 & 2017
- GE Most Innovative Industrial Internet Solution, ClarityTM team member, 2015
- Appointed to highest level of the Pitney Bowes Technical Ladder for Excellence in Engineering, 2013
- Chairman of the Security and Privacy Working Group for Dossia Foundation, a Personally Controlled Health Record system.
- Pitney Bowes 2004 Inventor of the Year
- Pitney Bowes 2000 Co-inventor of the Year
- NIST FIPS 140-1 Certificate of Appreciation – recognition for excellence in successful completion of FIPS 140-1 approval cycle.

SPEAKING AND PUBLICATIONS

DATE	TITLE	CONFERENCE
2018	Leveraging IoT to Transform Service and Services for SMB Clients	IoT World 2018
2017	IoT: The Journey to Becoming Connected (panelist)	Autodesk Accelerate 2017
2017	IoT Panel	Venture Clash 2017
2016	How IoT is transforming Pitney Bowes SMB into a digital powerhouse serving 1.5 million businesses worldwide	IoT World 2016
2016	IoT: What Is It? And Why Should I Care? (Keynote Speaker)	Connecticut Technology Council IoT Security Seminar
2013	Product Authentication Systems and Considerations	9th Annual Pitney Bowes Privacy and Security Day
2012	Secure Evidencing: Lessons from Implementing Payment Systems (Keynote Speech)	3rd Annual Pay-as-you-Go Workshop and Conference
2009	An Extensible Architecture for the Development and Deployment of Security Application	5th Annual Pitney Bowes Privacy and Security Day
2002	Threat-Based Security Analysis for Postage Evidencing Systems	UPU Revenue Protection (Invited Speaker sponsored by USPS)
2002	Threat-Based Security Analysis	USPS Metering Industry Workgroup
2001	Threat-Based Security Assessment	USPS Metering Industry Workgroup
1999	Considerations in the Design of Cryptographically Secure Electronic Products and Components	Connecticut Microelectronics and Optoelectronics Consortium
1993	VHDL Based Rapid Motion Control System Development Environment	The Fifth Annual Motion Control Technology Conference

OTHER INTERESTS

Composer in Residence with the Connecticut Choral Society.

Director of Worship at Bethany Alliance Church in Stratford, CT.