

Ari Juels

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Citizenship: U.S.A.

Current Positions

Weill Family Foundation and Joan and Sanford I. Weill Professor, Jacobs Technion-Cornell Institute, Cornell Tech	2019 – present
Co-Director, Initiative for CryptoCurrencies and Contracts (IC3)	2016 – present
Chief Scientist, Chainlink	2020 – present

Education

Ph.D.	University of California at Berkeley Computer Science Division Dissertation: <i>Topics in Black-Box Combinatorial Optimization</i> Advisor: Prof. Alistair Sinclair	1991 – 1996
B.A.	Amherst College, Amherst, MA Latin Literature and Mathematics Phi Beta Kappa	1987 – 1991

Appointments Held

Professor	Jacobs Technion-Cornell Institute, Cornell Tech	2014 – 2019
Chief Scientist	RSA, The Security Division of EMC	2010 – 2013
Distinguished Engineer	EMC Corporation	2010 – 2013
Director	RSA Laboratories	2007 – 2013
Chief Scientist	RSA Laboratories	2007 – 2010
Principal Research Scientist	RSA Laboratories	1999 – 2007
Co-founder	RavenWhite Inc.	2005 – 2006
Senior Research Scientist	RSA Laboratories	1998 – 1999
Research Scientist	RSA Laboratories	1996 – 1998

Teaching and Advising

Courses

- *CS 5094, Blockchains, Cryptocurrencies, and Smart Contracts.* Cornell University (Cornell Tech), Spring 2017, Spring 2018.
- *CS 5433 Blockchains, Cryptocurrencies, and Smart Contracts.* Cornell University (Cornell Tech), Spring 2018, Spring 2020.
- *CS 5435, Security and Privacy Concepts in the Wild.* Cornell University (Cornell Tech), Fall 2014, Fall 2015, Fall 2016, Fall 2017.
- *CS 5438, Security and Privacy: Practice and Case Studies.* Cornell University (Cornell Tech), Spring 2016. (Co-taught with Vitaly Shmatikov)
- *CS 6431, Security and Privacy Technologies.* Cornell University, Fall 2015, Fall 2016. (Co-taught with Thomas Ristenpart and Vitaly Shmatikov)
- *CS 6466 Blockchains, Cryptocurrencies, and Smart Contracts.* Cornell University, Fall 2019.
- *CS 7435, Special Topics in Applied Security and Privacy.* Cornell University, Spring 2016.

Current Ph.D. Students

- Kushal Babel
- Philip Daian
- Yan Ji
- Sishan Long
- Mahimna Kelkar
- (Sai Krishna) Deepak Maram

Current Postdoctoral Mentees

- Steven Goldfeder (IC3 postdoc, co-mentored with Andrew Miller)

Former PhD students

- Ethan Cecchetti (co-advised with Andrew Myers) (Postdoc, UMD, 2021-)
- Fan Zhang (Duke University, 2021-)

Former Postdoctoral Mentees

- Ian Miers (IC3 postdoc, co-mentored with Tom Ristenpart), 2017-19
- Hussam Abu-Libdeh (Jacobs Runway Postdoc), 2014-15

Selected Honors

- Test of Time Award (for 1999 “Client Puzzles” paper), NDSS, 2019
- Faculty Teaching Award, Cornell Tech, 2018
- Distinguished Student Paper Award, IEEE S&P, 2016
- IBM Faculty Research Award, 2016
- Google Faculty Research Award, 2015
- Distinguished Student Paper Award, IEEE S&P, 2015
- Cisco Internet of Things Security Grand Challenge, Winner, 2014
- NYU-Poly Best Applied Security Paper Award [renamed after 2012], 2nd place, 2013
- NYU-Poly AT&T Applied Security Paper Award, 3rd Place, 2012
- EMC Innovation Showcase Winner, 2nd Place, 2011
- International Book Awards, Winner, Fiction: Mystery and Suspense (for *Tetraktys*), 2010
- ComputerWorld, 40 Innovative IT People Under 40, 2007
- PET Award for Outstanding Research in Privacy Enhancing Technologies, 2007
- Best Tutorial Paper Award, IEEE Communications Society, 2007
- Best Student Paper, USENIX Security, 2005
- TR 100 (MIT *Technology Review*), “100 remarkable innovators under the age of 35” (now called TR35), 2004
- NASA Graduate Fellowship, 1992–95
- Pompeo Memorial Fellowship, 1991–92
- Amherst Memorial Fellowship, 1991
- Amherst Academy Fellowship, 1991

Publications

Publications in Reviewed Proceedings

[MMZJ-L+21] D. Maram, H. Malvai, F. Zhang, N. Jean-Louis, A. Frolov, T. Kell, T. Lobban, C. Moy, A. Juels, and A. Miller. CanDID: Can-Do Decentralized Identity with Legacy Compatibility, Sybil-Resistance, and Accountability. IEEE S&P, 2021.

[HZJD+21] C. Hou, M. Zhou, Y. Ji, P. Daian, F. Tramer, G. Fanti, and A. Juels. SquirRL: Automating Attack Discovery on Blockchain Incentive Mechanisms with Deep Reinforcement Learning. NDSS 2021.

[ACEF+20] S. Allen, S. Capkun, I. Eyal, G. Fanti, B. Ford, J. Grimmelmann, A. Juels, K. Kostianinen, S. Meiklejohn, A. Miller, E. Prasad, K. Wüst, and F. Zhang. Design Choices for Central Bank Digital Currency: Policy and Technical Considerations. 2020.

[KZGJ20] M. Kelkar, F. Zhang, S. Goldfeder, and A. Juels. Order-Fairness for Byzantine Consensus. CRYPTO, pp. 451–480, 2020.

- [MJPK-M+20] M. Mirkin, Y. Ji, J. Pang, A. Klages-Mundt, I. Eyal, and A. Juels. BDoS: Blockchain Denial of Service. ACM CCS, 2020. To appear.
- [ZMMG+20] F. Zhang, S. K. D. Maram, H. Malvai, S. Goldfeder, and A. Juels. DECO: Liberating Web Data Using Decentralized Oracles for TLS. ACM CCS, 2020. To appear. Project website: deco.works.
- [DGKL+20] P. Daian, S. Goldfeder, T. Kell, Y. Li, X. Zhao, I. Bentov, L. Breidenbach, and A. Juels. Flash Boys 2.0: Frontrunning, Transaction Reordering, and Consensus Instability in Decentralized Exchanges. IEEE S&P, 2020.
- [ZDBJ19] F. Zhang, P. Daian, I. Bentov, and A. Juels. Paralysis Proofs: Safe Access-Structure Updates for Cryptocurrencies and More. Advances in Financial Technologies (AFT), 2019.
- [CMJ+19] E. Cecchetti, B. Fisch, I. Miers, and A. Juels. PIEs: Public Incompressible Encodings for Decentralized Storage. ACM CCS, pp. 1351-1367, 2019.
- [CRCM+19] R. Chatterjee, M. S. Riazi, T. Chowdhury, E. Marasco, F. Koushanfar, and A. Juels. Multisketches: Practical Secure Sketches Using Off-the-Shelf Biometric Matching Algorithms. ACM CCS, pp. 1171-1186, 2019.
- [BJZB+19] I. Bentov, Y. Ji, F. Zhang, L. Breidenbach, P. Daian, and A. Juels. Tesseract: Real-Time Cryptocurrency Exchange Using Trusted Hardware. ACM CCS, pp. 1521-1538, 2019.
- [MZWL+19] S.K.D. Maram, F. Zhang, L. Wang, A. Low, Y. Zhang, A. Juels, and D. Song. CHURP: Dynamic-Committee Proactive Secret Sharing. ACM CCS, pp. 2369-2386, 2019.
- [CZKH+19] R. Cheng, F. Zhang, J. Kos, W. He, N. Hynes, N. Johnson, A. Juels, A. Miller, and D. Song. Ekiden: A Platform for Confidentiality-Preserving, Trustworthy, and Performant Smart Contract Execution. To appear in Euro S&P, 2019.
- [BDTJ18] L. Breidenbach, P. Daian, F. Tramèr, and A. Juels. Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts. USENIX Security, 2018.
- [SSMAC18] S. Matetic, M. Schneider, A. Miller, A. Juels, and S. Capkun. DelegaTEE: Brokered Delegation Using Trusted Execution Environments. USENIX Security, 2018.
- [CZJK+17] E. Cecchetti, F. Zhang, Y. Ji, A. Kosba, A. Juels, and E. Shi. Solidus: Confidential Distributed Ledger Transactions via PVORM. ACM CCS, pp. 701-717, 2017.
- [WCHJ+17] J. Woodage, R. Chatterjee, Y. Dodis, A. Juels, and T. Ristenpart. A New Distribution-Sensitive Secure Sketch and Popularity-Proportional Hashing. CRYPTO, pp. 682-710, 2017.
- [MAKD+17] S. Matetic, M. Ahmed, K. Kostianen, A. Dhar, D. Sommer, A. Gervais, A. Juels, and S. Capkun. ROTE: Rollback Protection for Trusted Execution. USENIX Security, 2017.
- [ZEEJ+17] F. Zhang, I. Eyal, R. Escriva, A. Juels, and R. van Renesse. REM: Resource-Efficient Mining for Blockchains. USENIX Security, 2017.
- [TZLH+17]. F. Tramèr, F. Zhang, H. Lin, J.-P. Hubaux, A. Juels, and E. Shi. Sealed-Glass Proofs: Using Transparent Enclaves to Prove and Sell Knowledge. IEEE European Symposium on Security and Privacy (Euro S&P), pp. 19-34, 2017.
- [TAGH+17]. F. Tramèr, V. Atlidakis, R. Geambasu, D. Hsu, J.-P. Hubaux, M. Humbert, A. Juels, and H. Lin. FairTest: Discovering Unwarranted Associations in Data-Driven Applications. IEEE European Symposium on Security and Privacy (Euro S&P), pp. 401-416, 2017.

- [DEJS17]. P. Daian, I. Eyal, A. Juels, and E. G. Sirer. (Short Paper) PieceWork: Generalized Outsourcing Control for Proofs of Work. BITCOIN, 2017.
- [ZCCJ+16] F. Zhang, E. Cecchetti, K. Croman, A. Juels, and E. Shi. Town Crier: An Authenticated Data Feed for Smart Contracts. ACM Conference on Computer and Communication Security (ACM CCS), pp. 270–282, 2016.
- [JKS16] A. Juels, A. Kosba, and E. Shi. The Ring of Gyges: Investigating the Future of Criminal Smart Contracts. ACM Conference on Computer and Communication Security (ACM CCS), pp. 283–295, 2016.
- [TZJR+16] F. Tramèr, F. Zhang, A. Juels, M. Reiter, and T. Ristenpart. Stealing Machine Learning Models via Prediction APIs. USENIX Security, pp. 601–618, 2016.
- [MJ16] W. Marino and A. Juels. Setting Standards for Altering and Undoing Smart Contracts. RuleML, pp. 151–166, 2016.
- [CAAJ+16] R. Chatterjee, A. Athayle, D. Akawhe, A. Juels, and T. Ristenpart. pASSWORD tYPOS and How to Correct Them Securely. IEEE Symposium on Security and Privacy (SP), pp. 800–816, 2016.
 ▷ **Distinguished Student Paper Award**
- [CDEG+16] K. Croman, C. Decker, I. Eyal, A. E. Gencer, A. Juels, A. Kosba, A. Miller, P. Saxena, E. Shi, E. G. Sirer, D. Song, and R. Wattenhofer. On Scaling Decentralized Blockchains. BITCOIN, 2016.
- [ECSJ+15] A. Everspaugh, R. Chatterjee, S. Scott, A. Juels, and T. Ristenpart. The Pythia PRF Service. USENIX Security, pp. 547–562, 2015.
- [JKTT15] A. Juels, J. Kelley, R. Tamassia, and N. Triandopoulos. Falcon Codes: Fast, Authenticated LT Codes (Or: Making Rapid Tornadoes Unstoppable). ACM Conference on Computer and Communication Security (ACM CCS), pp. 1032–1047, 2015.
- [HAHF+15] Z. Huang, E. Ayday, J.-P. Hubaux, J. Fellay, and A. Juels. GenoGuard: Protecting Genomic Data Against Brute-Force Attacks. IEEE Symposium on Security and Privacy (SP), pp. 447–462, 2015.
 ▷ **Distinguished Student Paper Award**
- [CBJR15] R. Chatterjee, J. Bonneau, A. Juels, and T. Ristenpart. Cracking-Resistant Password Vaults using Natural Language Encoders. IEEE Symposium on Security and Privacy (SP), pp. 481–498, 2015.
- [DGGJ+15] Y. Dodis, C. Ganesh, A. Golovnev, A. Juels and T. Ristenpart, A Formal Treatment of Backdoored Pseudorandom Generators. EUROCRYPT, pp. 101–126, 2015.
- [ZJRR14] Y. Zhang, A. Juels, M. Reiter, and T. Ristenpart. Cross-Tenant Side-Channel Attacks in PaaS Clouds. ACM Conference on Computer and Communication Security (ACM CCS), pp. 990–1003, 2014.
- [YHOR+14] T.-F. Yen, V. Heorhiadi, A. Oprea, M. K. Reiter, and A. Juels. An Epidemiological Study of Malware Encounters in a Large Enterprise. ACM Conference on Computer and Communication Security (ACM CCS), pp. 1117–1130, 2014.
- [BHJT14] K. Bowers, C. Hart, A. Juels, and N. Triandopoulos. PillarBox: Combating Next-Generation Malware with Fast Forward-Secure Logging. Research in Attacks, Intrusions and Defenses (RAID), pp. 46–67, 2014.

- [MJSPK14] A. Miller, A. Juels, E. Shi, B. Parno, and J. Katz. PermaCoin: Repurposing Bitcoin Work for Long-Term Data Preservation. *IEEE Symposium on Security and Privacy (S & P)*, pp. 475–490, 2014.
- [JR14a] A. Juels and T. Ristenpart. Honey Encryption: Security Beyond the Brute-Force Bound. *EUROCRYPT*, pp. 293–310, 2014.
- [YOOL+13] T.-F. Yen, A. Oprea, K. Onarlioglu, A. Juels, E. Kirda, and W. Robertson. Beehive: Large-Scale Log Analysis for Detecting Suspicious Activity in Enterprise Networks. *Annual Computer Security Applications Conference (ACSAC)*, pp. 199–208, 2013.
- [JR13a] A. Juels and R. L. Rivest. Honeywords: Making Password-Cracking Detectable. *ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 145–160, 2013.
- [RJK13] M. Rostami, A. Juels, and F. Koushanfar. Heart-to-Heart (H2H): Authentication for Implanted Medical Devices. *ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 1099–1112, 2013.
- ▷ **NYU-Poly Best Applied Security Paper Award, 2nd place.**
- [RBJK13] M. Rostami, W. Burleson, A. Juels, and F. Koushanfar. Balancing Security and Utility in Medical Devices. *ACM Design Automation Conference (DAC)*, Article no. 13, 2013.
- [BJRS13] K. Bowers, A. Juels, R. Rivest, and E. Shen. Drifting Keys: Impersonation Detection for Constrained Devices. *IEEE INFOCOM*, pp. 1025–1033, 2013.
- [ZCJ13] D. Zanetti, S. Capkun, and A. Juels. Tailing RFID Tags for Clone Detection. *Network and Distributed System Security Symposium (NDSS)*, 2013.
- [SvDOJ12] E. Stefanov, M. van Dijk, A. Oprea, and A. Juels. Iris: A Scalable Cloud File System with Efficient Integrity Checks. *Annual Computer Security Applications Conference (ACSAC)*, pp. 229–238, 2012.
- ▷ **NYU-Poly AT&T Best Applied Security Paper Award, 3rd place.**
- [FVBJ+12] B. Farley, V. Varadarajan, K.D. Bowers, A. Juels, T. Ristenpart, M. Swift. More for Your Money: Exploiting Performance Heterogeneity in Public Clouds. *Symposium on Cloud Computing (SOCC)*: 20, 2012.
- [vDJOR+12] M. van Dijk, A. Juels, A. Oprea, R. L. Rivest, E. Stefanov, and N. Triandopoulos. Hour-glass Schemes: How to Prove That Cloud Files Are Encrypted. *ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 265–280, 2012.
- [YJRR12] Y. Zhang, A. Juels, M. K. Reiter, and T. Ristenpart. Cross-VM Side Channels and Their Use to Extract Private Keys. *ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 305–316, 2012.
- [BvDGJ+12] K. D. Bowers, M. van Dijk, R. Griffin, A. Juels, A. Oprea, R. L. Rivest, and N. Triandopoulos. Defending against the Unknown Enemy: Applying `FlipIt` to System Security. *Conference on Decision and Game Theory for Security (GameSec)*, pp. 248–263, 2012.
- [JY12] A. Juels and T.F. Yen. Sherlock Holmes and the Case of the Advanced Persistent Threat. *USENIX Workshop on Large-Scale Exploits and Emergent Threats (LEET)*: 2, 2012.
- [BvDJO+12] K. Bowers, M. van Dijk, A. Juels, A. Oprea, and R. Rivest. How to Tell if Your Cloud Files Are Vulnerable to Drive Crashes. *ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 501–514, 2011.

- [ZJOR11] Y. Zhang, A. Juels, A. Oprea, M. K. Reiter. HomeAlone: Co-Residency Detection in the Cloud via Side-Channel Analysis. *IEEE Symposium on Security and Privacy (S & P)*, pp. 313–328, 2011.
- [DBvDJ11] T. Denning, K. Bowers, M. van Dijk, and A. Juels. Exploring Implicit Memory for Painless Password Recovery. *International Conference on Human Factors in Computing Systems (CHI)*, pp. 2615–2618, 2011.
- [J10a] A. Juels. The Physical Basis of RFID Security. *RFIDSec*, p. 1, 2010. (Keynote abstract)
- [OJ10] A. Oprea and A. Juels. A Clean-Slate Look at Disk Scrubbing. *USENIX Conference on File and Storage Technologies (FAST)*, pp. 57–70, 2010.
- [JvD10] M. van Dijk and A. Juels. On the Impossibility of Cryptography Alone for Privacy-Preserving Cloud Computing. *USENIX Workshop on Hot Topics in Security (HotSec)*, 2010.
- [JJ09] M. Jakobsson and A. Juels. Server-Side Detection of Malware Infection. *New Security Paradigms Workshop (NSPW)*, pp. 11–22, 2009.
- [KJKB09] K. Koscher, A. Juels, T. Kohno, and V. Brajkovic. EPC RFID Tags in Security Applications: Passport Cards, Enhanced Drivers Licenses, and Beyond. *ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 187–198, 2009.
- [BJO09a] K. Bowers, A. Juels, and A. Oprea. HAIL: A High-Availability and Integrity Layer for Cloud Storage. *ACM Conference on Computer and Communication Security (ACM CCS)*, pp. 187–198, 2009.
- [SCRF+09] M. Salajegheh, S. Clark, B. Ransford, K. Fu, and A. Juels. CCCP: Secure Remote Storage for Computational RFIDs. *USENIX Security Symposium*, pp. 215–230, 2009.
- [BJO09b] K. Bowers, A. Juels, and A. Oprea. Proofs of Retrievability: Theory and Implementation. *ACM Cloud Computing Security Workshop (CCSW)*, pp. 43–54, 2009.
- [JPP08] A. Juels, B. Parno, and R. Pappu. Unidirectional Key Distribution Across Time and Space with Applications to RFID Security. *USENIX Security Symposium*, pp. 75–90, 2008.
- [J08] A. Juels. RFID security: in the shoulder and on the loading dock. *ACM conference on Wireless network security (WiSec)*, p.1, 2008. (Abstract of keynote talk.)
- [JJR08] M. Jakobsson, A. Juels, and Jacob Ratkiewicz. Privacy-Preserving History Mining for Web Browsers. *W2SP*, 2008.
- [CEJM+07] S.G. Choi, A. Elbaz, A. Juels, T. Malkin, and M. Yung. Two-Party Computing with Encrypted Data. *Advances in Cryptology–ASIACRYPT*, pp. 298–314, 2007.
- [BBGJ07] D. Bailey, D. Boneh, E.-J. Goh, and A. Juels. Covert Channels in Privacy-Preserving Identification Systems. *ACM Conference on Computer and Communications Security (ACM CCS)*, pp. 297–306, 2007.
- [JK07] A. Juels and B. Kaliski. PORs: Proofs of Retrievability for Large Files. *ACM Conference on Computer and Communications Security (ACM CCS)*, pp. 584–597, 2007.
- [HBFJ+07] T. Heydt-Benjamin, D. Bailey, K. Fu, A. Juels, and T. O’Hare. Vulnerabilities in First-Generation RFID-Enabled Credit Cards. *Financial Cryptography and Data Security*, pp. 2–14, 2007.
- [BFJ07] B. Defend, K. Fu, and A. Juels. Cryptanalysis of Two Lightweight RFID Authentication

- Schemes. Percom Workshops (PerSec), pp. 211–216, 2007.
- [JW07] A. Juels and S. Weis. Defining Strong Privacy for RFID. PerCom Workshops (PerTec), pp. 342–347, 2007.
- [JSJ07] A. Juels, S. Stamm, and M. Jakobsson. Combating Click Fraud via Premium Clicks. USENIX Security Symposium, pp. 17–26, 2007.
- [BJRS+06] J. G. Brainard, A. Juels, R. Rivest, M. Szydlo, and M. Yung. Fourth-Factor Authentication: Someone You Know. ACM Conference on Computer and Communications Security (ACM CCS), pp. 168–178, 2006.
- [BJ06] D. Bailey and A. Juels. Shoehorning Security into the EPC Standards. Security and Cryptography for Networks (SCN), pp. 303–320, 2006.
- [JJJ06] A. Juels, M. Jakobsson, and T. Jagatic. Cache Cookies for Browser Authentication (Extended Abstract). IEEE Symposium on Security and Privacy, pp. 301–305, 2006.
- [J06b] A. Juels: The Outer Limits of RFID Security. Cryptographic Hardware and Embedded Systems (CHES), p. 231, 2006. (Abstract of invited talk.)
- [JMW05] A. Juels, D. Molnar, and D. Wagner. Security and Privacy Issues in E-passports. SecureComm, pp. 74–88, 2005.
- [JW05] A. Juels and S. Weis. Authenticating Pervasive Devices with Human Protocols. Advances in Cryptology–CRYPTO, pp. 293–308, 2005.
- [J05d] A. Juels. Strengthening EPC Tags Against Cloning. ACM Workshop on Wireless Security (WiSec), pp. 67–76, 2005.
- [JSB05] A. Juels, P. Syverson, and D. Bailey. High-Power Proxies for Enhancing RFID Privacy and Utility. Workshop on Privacy Enhancing Technologies (WPES), pp. 210–226, 2005.
- [BGSJ+05] S. Bono, M. Green, A. Stubblefield, A. Juels, A. Rubin, and M. Szydlo. Security Analysis of the a Cryptographically Enabled RFID Device. USENIX Security Symposium, pp. 1–16, 2005.
- ▷ **Best Student Paper Award, USENIX Security**
 - ▷ **Outstanding Research Award in Privacy Enhancing Technologies (2007)**
- [JCJ05] A. Juels, D. Catalano, and M. Jakobsson. Coercion-Resistant Electronic Elections. *Workshop on Privacy in the Electronic Society* (WPES), pp. 61–70, 2005.
- [J04b] A. Juels. Minimalist Cryptography for RFID Tags. Security of Communication Networks (SCN), pp. 149–164, 2004.
- [JB04] A. Juels and J. G. Brainard. Soft Blocking: Flexible Blocker Tags on the Cheap. Workshop on Privacy Enhancing Technologies (WPES), pp. 1–7, 2004.
- [WJHF04] B. Waters, A. Juels, A. Halderman, and E. Felten. New Client Puzzle Outsourcing Techniques for DoS Resistance. ACM Conference on Computer and Communications Security (ACM CCS), pp. 246–256, 2004.
- [GJ04a] P. Golle and A. Juels. Parallel Mixing. ACM Conference on Computer and Communications Security (ACM CCS), pp. 220–226, 2004.
- [GJ04b] P. Golle and A. Juels. Dining Cryptographers Revisited. Advances in Cryptology–EUROCRYPT,

pp. 456–473, 2004.

[J04c] A. Juels. “Yoking-Proofs” for RFID Tags. IEEE Annual Conference on Pervasive Computing and Communications Workshops (PERCOMW), pp.138–143, 2004.

[J04d] A. Juels. RFID: security and privacy for five-cent wireless devices. Workshop on Wireless Security (WiSec), p. 31, 2004. (Abstract of keynote talk.)

[J04e] A. Juels. RFID: Security and Privacy for Five-Cent Computers. USENIX Security Symposium. (Abstract of invited talk.)

[GJJS04] P. Golle, M. Jakobsson, A. Juels, and P. Syverson. Universal Re-Encryption for Mixnets. RSA Conference Cryptographers’ Track (CT-RSA), pp. 163–178, 2004.

[JRS03] A. Juels, R. L. Rivest, and M. Szydlo. The Blocker Tag: Selective Blocking of RFID Tags for Consumer Privacy. ACM Conference on Computer and Communications Security (ACM CCS), pp. 103–111, 2003.

[BJKS03] J. G. Brainard, A. Juels, B. Kaliski, and M. Szydlo. A New Two-Server Approach for Authentication with Short Secrets. USENIX Security Symposium, pp. 201–214, 2003.

[JP03] A. Juels and R. Pappu. Squealing Euros: Privacy-Protection in RFID-Enabled Banknotes. Financial Cryptography, pp. 103–121, 2003.

[JS02] A. Juels and M. Sudan. A Fuzzy Vault Scheme. International Symposium on Information Theory (ISIT), p. 408, 2002.

[GZBJ+02] P. Golle, S. Zhong, D. Boneh, M. Jakobsson, and A. Juels. Optimistic Mixing for Exit Polls. Advances in Cryptology–ASIACRYPT, pp. 451–465, 2002.

[JG02] A. Juels and J. Guajardo. RSA Key Generation with Verifiable Randomness. Public Key Cryptography (PKC), pp. 357–374, 2002.

[JJR02] M. Jakobsson, A. Juels, and R. L. Rivest. Making Mix Nets Robust for Electronic Voting by Randomized Partial Checking. USENIX Security Symposium, pp. 339–353, 2002.

[JS02b] A. Juels and M. Szydlo. A Two-Server Auction Protocol. Financial Cryptography (FC), pp. 72–86, 2002.

[JJN02] M. Jakobsson, A. Juels, and P. Q. Nguyen. Proprietary Certificates. RSA Conference Cryptographers’ Track (CT-RSA), pp. 164–181, 2001.

[JJ01] M. Jakobsson and A. Juels. An Optimally Robust Hybrid Mix Network. ACM Symposium on Principles of Distributed Computing (PODC), pp. 284–292, 2001.

[FJ01] N. Frykholm and A. Juels. Error-Tolerant Password Recovery. ACM Conference on Computer and Communications Security (ACM CCS), pp. 1–9, 2001.

[J01] A. Juels. Targeted Advertising... and Privacy Too. RSA Conference Cryptographers’ Track (CT-RSA), pp. 408–424, 2001.

[JJ00a] M. Jakobsson and A. Juels. Mix and Match: Secure Function Evaluation via Ciphertexts. Advances in Cryptology – ASIACRYPT, pp. 346–358, 2000.

[JJ00b] M. Jakobsson and A. Juels. Addition of El Gamal Plaintexts, Advances in Cryptology – ASIACRYPT, pp. 346–358, 2000.

[HJJY00] J. Håstad, J. Jonsson, A. Juels, and M. Yung. Funkspiel Schemes: An Alternative to Conventional Tamper Resistance. *ACM Conference on Computer and Communications Security (ACM CCS)*, pp. 125–133, 2000.

[JW99] A. Juels and M. Wattenberg. A Fuzzy Commitment Scheme. *ACM Conference on Computer and Communications Security (ACM CCS)*, pp. 28–36, 1999.

▷ **NDSS Test of Time Award, 2019**

[JJ99a] M. Jakobsson and A. Juels. Proofs of Work and Bread Pudding Protocols. *Communications and Multimedia Security*, pp. 258–272, 1999.

[JB99] A. Juels and J. G. Brainard. Client Puzzles: A Cryptographic Defense Against Connection Depletion Attacks. *Network and Distributed System Security Symposium (NDSS)*, pp. 151–165, 1999.

[J99] A. Juels. Trustee Tokens: Simple and Practical Tracing of Anonymous Digital Cash. *Financial Cryptography (FC)*, pp. 29–45, 1999.

[JSHJ98] M. Jakobsson, L. Shriver, B. Hillyer, and A. Juels. A Practical Secure Physical Random Bit Generator. *ACM Conference on Computer and Communications Security (ACM CCS)*, pp. 103–111, 1998.

[JP98] A. Juels and M. Peinado. Hiding Cliques for Cryptographic Security. *Symposium on Discrete Algorithms (SODA)*, pp. 678–684, 1998.

[JJ98] M. Jakobsson and A. Juels. X-cash: Executable Digital Cash. *Financial Cryptography (FC)*, pp. 16–27, 1998.

[JLO97] A. Juels, M. Luby, and R. Ostrovsky. Security of Blind Digital Signatures. *Advances in Cryptology – CRYPTO*, pp. 150–164, 1997.

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Journal Articles

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Program Vice Chair, Security, Privacy, and Ethics Track, WWW2006: Fifteenth International World Wide Web Conference, 2006

Program “Shadow” Chair (Vice Chair): NDSS, 2016

Program Co-Chair: CCSW, 2013, RFIDSec, 2011; WiSe (ACM Workshop on Wireless Security), 2006; PerSec (Workshop on Pervasive Computing and Communication Security), 2006; DIMACS Workshop on Electronic Voting, 2004

General chair: ACM Conference on Communications Security, 2006

Doctoral dissertation committees: Philippe Golle, Ph.D., Stanford University, December 2003; Brent Waters, Ph.D., Princeton University, August 2004; Melanie Rieback, Ph.D., Vrije Universiteit, The Netherlands, September 2008; Davide Zanetti, Ph.D., ETH Zurich, December 2012; Masoud Rostami, Rice Univ., May 2014; Yinqian Zhang, UNC, June 2014; Joel Reardon, ETH-Zurich, Dec. 2014; Mathias Humbert, EPFL, January 2015; Karl Wust, ETH Zurich, August 2021

Steering Committee Member: NDSS, 2018-; ACM SIGSAC, 2005–09

Associate Editor: *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 2008–10

Government Service: FCC Technical Advisory Board, 2010–11

Advisory Committee Member: RSA Conference, 2008–2012

Editorial Board Member: *Handbook of Computer Networks*, 2006; *Handbook of Information Security*, 2005; *Internet Encyclopedia*, 2004

President: International Financial Cryptography Association, 2004–2005

Technical Program Committee Member: USENIX Security, 2020; IEEE S&P, 2019; IEEE S&P, 2018; USENIX Security, 2017; BITCOIN, 2017; IEEE S&P, 2015; NDSS, 2014; IEEE S&P, 2014; ACM CCS, 2013; CRYPTO, 2012; NDSS, 2012; ACM CCS, 2010; EUROCRYPT, 2010; WiSec, 2009; CRYPTO, 2008; IEEE S&P, 2008; ACNS, 2008; WOTE, 2007; ACM CCS, 2007; ISC (Pythagoras), 2006; FC, 2006; SAC, 2005; ACNS, 2005; SPC, 2005; NDSS, 2005; PerSec, 2005; WiSe, 2004; ACM CCS, 2003; FC, 2003; Asiacrypt, 2002; ACM CCS, 2002; CT-RSA, 2001; ACM CCS, 1999; FC, 1999; NDSS, 1999; NDSS, 1998

Organizing Committee Member: Organizer, RFID Privacy Workshop at MIT '03; Publicity chair, ACM CCS, 2001

Co-Organizer: DIMACS Workshop on Secure Cloud Computing, March 2014; RFID-CUSP Workshop, 2008

Founder: RSA Conference Cryptographers' Track (CT-RSA)

Standards Working Group Participant: ANSI X9.F1 and X9.F4

Project Advisory Committee Member: Strategic Healthcare IT Advanced Research Projects on Security (SHARPS), 2010-2014

Academic Advisory Board Member: MIT Consortium for Kerberos and Internet Trust, 2013-4

University Activity: Cornell Computer Science Ph.D. Admissions Committee, 2014-5, 2015-6; Jacobs Technion-Cornell Preparatory Committee, 2014-; Jacobs Ruch Grant Selection Committee, 2014-6

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- A. Juels. “Method and system for preventing de-duplication side-channel attacks in cloud storage systems.” U.S. patent 8,528,085. Issued 3 September 2013.
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- A. Juels. “Authentication methods and apparatus utilizing hash chains.” U.S. patent 7,848,746. Issued 7 Dec. 2010.
- A. Juels. “Methods and apparatus for RFID device authentication.” U.S. patent 7,750,793. Issued 6 July 2010.

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- M. Jakobsson and A. Juels. “Executable Cash for Electronic Commerce.” U.S. patent 6,157,920. Issued 5 Dec. 2000.

Selected Press Coverage

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- *Barron's*. “Inside DeFi, the Wild West of Cryptocurrency,” by Daren Fonda. 31 October 2021.
- *Bloomberg*. “Crypto Trading: How Flashbots Work to Front-Run Ether and Other Coin Purchases,” by Olga Khalif. 21 Sept. 2021.
- *The New Yorker*. “Why Bitcoin Is Bad for the Environment,” by Elizabeth Kolbert. 22 April 2021.
- *CoinDesk*. “Op-Ed: Miners, Front-Running-as-a-Service Is Theft,” by Ari Juels, Ittay Eyal, and Mahimna Kelkar. 7 April 2021. (Op-ed on front-running in blockchains.)
- *Wired*. “As Digital Currencys Popularity Rises, So Do Privacy Fears,” by Gregory Barber. 16 March 2021. (Article referencing IC3 paper on CBDC.)
- *Forbes*. “Chainlinks New Acquisition From Cornell University Could Transform Blockchain For Good,” by Ben Jessel. 29 August 2020. (Article on acquisition of DECO by Chainlink.)
- *Yahoo Finance / Decrypt*. “Chainlink CEO: How ‘Mixicles’ can change the game for smart contract privacy,” by Adriana Hamacher. 12 September 12 2019.
- *Wired*. “Microsoft Wants to Protect Your Identity With Bitcoin,” by Gregory Barber. 14 May 2019. (Article on self-sovereign identity management, with references to my group’s work on CHURP and oracles.)
- *Bloomberg*. “Flash Boys: Trading Bots Are Running Wild on Crypto Exchanges,” by Olga Kharif and Vildana Hajric. 23 April 2019. (Article on research on cryptocurrency exchanges and arbitrage bots.)
- *MIT Tech Review China*. “The whereabouts of 4 million bitcoins worldwide are unknown? This group of Cornell University scholars want to solve this problem — Exclusive interview.” 30 March 2019. (Article on secret sharing scheme robust to “churn,” i.e., nodes coming and going.)
- *MIT Technology Review*. “Blockchain smart contracts are finally good for something in the real world,” by Mike Orcutt. 19 November 2018. (Article on Chainlink that quotes me and discusses Town Crier.)
- *Forbes*. “Cornell’s Town Crier Acquired By Chainlink To Expand Decentralized Oracle Network,” by Darryn Pollock. 1 November 2018. (Article about transfer of Town Crier to Chainlink.)
- *MIT Technology Review*. “Blockchain smart contracts are finally good for something in the real world,” by Mike Orcutt. 19 November 2018. (Article on Chainlink that quotes me and discusses Town Crier.)
- *Wired*. “Meet the man with a radical plan for blockchain voting,” by Andrew Leonard. 16 August 2018. (Article on blockchain voting that mentions my work on vote-buying.)
- *CoinDesk*. “The ‘Dark DAO’ Threat: Vote Vulnerability Could Undermine Crypto Elections,” by Rachel Rose O’Leary. 20 July 2018. (Article discussing my group’s blog post on attacking blockchain voting systems.)
- *MIT Technology Review*. “Meet Oasis Labs, the blockchain startup Silicon Valley is buzzing about,” by Mike Orcutt. 12 July 2018. (Article that discusses my group’s Ekiden project and its use by Oasis Labs.)
- *CoinDesk*. “Sharding Is Ushering in Radical Ethereum Designs,” by Rachel Rose O’Leary. 28 March 2018. (Article discussing GasToken / Project Chicago.)
- *CNBC*. “Bitcoin and blockchain consume an exorbitant amount of energy. These engineers are trying to change that,” by Helen Zhao. 23 February 2018. (Article mentioning REM / Proof of Useful work.)

- *Bitcoin Magazine*. “Cornell IC3 Researchers Propose Solution to Bitcoins Multisig ‘Paralysis’ Problem,” by Amy Castor. 19 January 2018. (Article on key-management research project.)
- *Gadgets 360*, “Bitcoin May Not Be the Future, but the Technology Behind It Might Well Be,” by Gopal Sathe. 19 December 2017. (Interview with me regarding Bitcoin.)
- *CoinDesk*. “Smarter Bug Bounties? Hydra Codes Creative Solution for Ethereum Theft,” by Rachel Rose O’Leary. 2 November 2017. (Article on Hydra Project.)
- *CoinDesk*. “Submarine Sends: IC3’s Plan to Clamp Down on ICO Cheats,” by Bailey Reutzell. 28 August 2017. (Article on blockchain confidentiality research.)
- *Forbes*. “Researchers Find Issues With 0x, An Ethereum-Based Project Aiming To Raise Millions In An ICO,” by Amy Castor. 15 August 2017. (Article on cryptocurrency exchange research.)
- *MIT Technology Review*. “How Encrypted Weather Data Could Help Corporate Blockchain Dreams Come True,” by Tom Simonite. 11 March 2017. (Article on Town Crier oracle.)
- *Wired*, “How to Steal an AI,” by Andy Greenberg. 30 September 2016. (Discussion of research on “model extraction” attacks against ML model.)
- *Hacker News*, “Stealing Machine Learning Models via Prediction APIs.” 22 September 2016. (Discussion of research on “model extraction” attacks against ML model.)
- *MIT Technology Review*, “Why Autocorrect for Passwords Is a Great Idea,” by Tom Simonite, 1 June 2016. (Coverage of research on password-typo correction.)
- *MIT Technology Review*, “Technical Roadblock Might Shatter Bitcoin Dreams,” by Tom Simonite, 16 February 2016. (Coverage of research on Bitcoin scaling.)
- *Nature*, “The Future of Cryptocurrencies: Bitcoin and Beyond,” by Andy Extance, v. 526, num. 7571, 30 September 2015. (News feature covering my research on cryptocurrencies and of IC3, a research initiative that I co-direct.)
- *Phys.org*, “The Future of Encryption,” by Amina Khan. 23 October 2015. (Survey of promising new encryption techniques includes honey encryption.)
- *MIT Technology Review*, “Bitcoin’s Dark Side Could Get Darker,” by Tom Simonite, 13 August 2015. (Coverage of research on criminal smart contracts.)
- *Slashdot*, “The Best Way To Protect Real Passwords: Create Fake Ones,” 12 May 2015. (Coverage of “NoCrack” project.)
- *New Scientist*. “The Bitcoin Spin-Off Currency That’s Also an Archive,” by Aviva Rutkin, 12 June 2014. (Coverage of Permacoin.)
- *Slashdot*, “Building Deception Into Encryption Software,” 29 January 2014. (Coverage of “honey encryption” research.)
- *MIT Technology Review*, “‘Honey Encryption’ Will Bamboozle Attackers with Fake Secrets,” by Tom Simonite, 29 January 2014. (Article on “honey encryption” research.)
- *Forbes*, “Security That Keeps Medical Implants Safe from Hackers,” by Taylor Kubota. 23 October 2013. (Article on joint Rice Univ. / RSA Labs research on medical-device security.)
- *Wall Street Journal*, “A Password for Implants,” by Daniel Akst. 4 Oct. 2013. (Article on joint Rice Univ. / RSA Labs research on medical-device security.)
- *Slashdot*, “Honeywords: Honey-pot Passwords,” 8 May 2013. (Coverage of “honeywords” research paper.)
- *NBCNews*, “Fake ‘honeyword’ passwords could be planted to trip up hackers.” 7 May 2013. (Article on “honeywords” research paper.)

- *Slashdot*, “Attack Steals Crypto Key From Co-Located Virtual Machines,” 6 November 2012. (Coverage of joint Univ. of North Carolina / RSA Labs / Univ. of Wisconsin research on cloud security.)
- *MIT Technology Review*, “How to Steal Data from Your Neighbor in the Cloud,” by Tom Simonite, 8 November 2012. (Article on joint Univ. of North Carolina / RSA Labs / Univ. of Wisconsin research on cloud security.)
- *MIT Technology Review*, “To Keep Passwords Safe from Hackers, Just Break Them into Bits,” by Tom Simonite, 9 October 2012. (Article on RSA product developed by RSA Labs.)
- *MIT Technology Review*, “Spotting Virtual Intruders,” by Erica Naone, 9 March 2011. (Article on joint RSA Labs / Univ. of North Carolina work on side-channel based detection of unwanted cloud co-residency.)
- *New Scientist*, “RFID tags get an intelligence upgrade,” by Kurt Kleiner, 14 August 2009. (Article on joint UMass / RSA Labs work on computational RFID tags.)
- *Slashdot*, “Book Reviews: *Tetraktys*,” 29 July 2009. (Review of my thriller novel *Tetraktys*.)
- *Boston Globe*, “RSA Labs scientist pens a tale of cybervillains,” by Mark Baard. 20 July 2009. (Article about my thriller novel *Tetraktys*.)
- *CNET*, “Taking the Classical Approach to Security,” by Vivian Yeo, 24 December 2008. (Interview with me on a range of topics.)
- *Slashdot*, “Researchers Find Problems With RFID Passport Cards.” 24 October 2008. (Coverage of joint Univ. of Washington/RSA Laboratories analysis of Passport Cards and Enhanced Drivers Licenses.)
- *Wall Street Journal*, “Border-Crossing Cards Can Be Copied,” by Keith J. Winstein, 23 October 2008. (Article on joint Univ. of Washington/RSA Laboratories analysis of Passport Cards and Enhanced Drivers Licenses.)
- *New York Times*, “Researchers find problems with RFID passport cards,” by Stephen Lawson. 23 October 2008. (Article on joint Univ. of Washington/RSA Laboratories analysis of Passport Cards and Enhanced Drivers Licenses.)
- *Forbes*, “In Pictures: Gadgets for Stopping Identity Theft,” by Andy Greenberg, 14 May 2008. (Coverage of RSA Labs’ handset-based access-control system.)
- *ComputerWorld*, “40 Innovative IT People to Watch Under the Age of 40,” 9 July 2007.
- *New York Times*, “Researchers See Pitfalls in No-Swipe Credit Cards,” by John Schwartz, 23 October 2006. (Article on joint UMass-Amherst/RSA Laboratories analysis of RFID-enabled credit cards.)
- *Consumer Reports*, “The End of Privacy?” by Andrea Rock, June 2006.
- *Wired*, “The RFID Hacking Underground,” by Annalee Newitz, 5 May 2006. (Article on RFID security community work, including my research.)
- National Public Radio, *All Things Considered*, “High-Tech Passports Stir Concerns,” by Larry Abramson. 10 April 2005.
- *New York Times*, “Graduate Cryptographers Unlock Code of ‘Thiefproof’ Car Key,” by John Schwartz. 29 January 2005. (Article on joint Johns Hopkins/RSA Labs reverse-engineering of cryptographic RFID device used in many payment tokens and automobile immobilizers.)
- *Slashdot*, “Car RFID Security System Cracked.” 29 January 2005. (Coverage of joint Johns Hopkins/RSA Labs reverse-engineering of cryptographic RFID device used in many payment tokens and automobile immobilizers.)

- *MIT Technology Review*, “The 2004 TR100.” October 2004. List of the top 100 technology innovators in the world under 35 years of age. (Award is now called the TR35.)
- National Public Radio, *Morning Edition*, “Radio Frequency IDs,” by Larry Abramson. (Discussion of co-invented RFID “blocker” tag and demonstration pharmacy.) 26 March 2004.
- *Slashdot*, “RSA Creating RFID Blocker Tag.” 24 February 2004. (Coverage of co-invented RFID “blocker” tag.)

Recent and Selected Talks

- Real World Crypto (RWC). “CanDID: Can-Do Decentralized Identity with Legacy Compatibility, Sybil-Resistance, and Accountability.” Jan. 2021.
- Securities and Exchange Commission (SEC), invited talk on smart contracts, Oct. 2020.
- Stanford Blockchain Conference. “Mixicles.” Invited talk, Feb. 2020.
- Fireside chat with Sergey Nazarov, Chainlink CEO (in consulting capacity). Feb. 2020.
- Real World Crypto. “DECO: A privacy-preserving oracle for TLS.” Invited talk, Jan. 2020.
- UPenn. Flash Boys 2.0: Frontrunning, Transaction Reordering, and Consensus Instability in Decentralized Exchanges.” Distinguished Lecture. Nov. 2019.
- Cryptoeconomic Systems Summit, MIT Media Lab. Flash Boys 2.0: Frontrunning, Transaction Reordering, and Consensus Instability in Decentralized Exchanges.” Invited talk. Oct. 2019.
- IC Research Day, EPFL. “Flash Boys 2.0: Frontrunning, Transaction Reordering, and Consensus Instability in Decentralized Exchanges.” Invited talk. June 2019.
- Cornell Blockchain Conference. “Flash Boys 2.0: Frontrunning, Transaction Reordering, and Consensus Instability in Decentralized Exchanges.” Apr. 2019.
- New York Family Office and High Net Worth Blockchain Conference. “Intro to Smart Contracts.” Invited talk. Nov. 2018.
- Hasso-Plattner-Institut für Digital Engineering, NYC, HPI Cybersecurity Symposium. “Intro to Smart Contracts.” Invited talk. Sept. 2018.
- TU Darmstadt, “Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts.” Distinguished Lecture Series talk. June 2018.
- Summer Research Institute (SuRI), EPFL. “Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts.” Invited talk. June 2018.
- Summer School on Real-World Crypto and Privacy, Sibenik, Croatia. “Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts.” Invited talk. June 2018.
- MIT Bitcoin Expo, “Trusted-Hardware and Blockchain Alchemy: Oracles, Paralysis Proofs, Exchanges, and More.” Invited talk. March 2018.
- George Mason University, “Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts.” Distinguished Lecture Series talk. March 2018.
- Cambridge Blockchain Meetup, “Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts.” March 2018.
- Networks and Distributed Security Systems (NDSS), “Beyond Smarts: Toward Correct, Private, Data-Rich Smart Contracts.” Keynote talk. February 2018.

- Information Theory and Applications Workshop, “Beyond Smarts: Toward Correct, Private, Data-Rich Smart Contracts.” Plenary session talk. February 2018.
- UC Berkeley, “Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts.” Bay Area Crypto Day. November 2017.
- UCSD, “Enter the Hydra: Towards Principled Bug Bounties and Exploit-Resistant Smart Contracts.” Distinguished Lecture Series talk. November 2017.
- Summer School on Real-World Crypto and Privacy, Sibenik, Croatia. “Blockchains and Trusted Hardware.” Invited talk. June 2017.
- Summer Research Institute (SuRI), EPFL. “Solidus: Strong Confidentiality and Transparency for Blockchain Transactions.” Invited talk. June 2017.
- NYC IC3 Meetup, “Town Crier: An Authenticated Data Feed for Smart Contracts.” September 2016.
- Cx / AOL-Cornell Tech workshop, NYC, “The Jekyll and Hyde of Smart Contracts.” Keynote talk. August 2016.
- Summer Research Institute (SuRI), EPFL. “Exploring the Future of Smart Contracts.” Invited talk. June 2016.
- NYU, “The Ring of Gyges: Exploring the Future of Criminal Smart Contracts.” Invited talk. April 2016.
- NSF WATCH series, “The Jekyll and Hyde of Smart Contracts.” April 2016.
- Institute of International Finance (IIF), Invited Tutorial on Smart Contracts. April 2016.
- MIT, “The Ring of Gyges: Exploring the Future of Criminal Smart Contracts.” Invited talk. April 2016.
- Real World Cryptography, Stanford University “PASS: Strengthening and Democratizing Enterprise Password Hardening.” Invited talk. January 2016.
- Army Research Office cyberdeception workshop, George Mason University “A Bodyguard of Lies: The Use of Honey Objects in Information Security.” Invited talk. August 2015.
- Summer Research Institute (SuRI), EPFL. “The Ring of Gyges: Using Smart Contracts for Crime.” Invited talk. June 2015.
- The Technion. “The Ring of Gyges: Using Smart Contracts for Crime.” May 2015.
- Google Faculty Research Summit, Mountain View, CA, USA. “Parallax Privacy.” March 2015.
- Qualcomm Research, Santa Clara, CA, USA. “A Bodyguard of Lies: The Use of Honey Objects in Information Security.” March 2015.
- ACM SACMAT, Waterloo, Canada. “A Bodyguard of Lies: The Use of Honey Objects in Information Security.” Keynote talk. June 2014.
- Summer Research Institute (SuRI), EPFL. “The Password That Never Was.” June 2014.
- ETH-Zurich. “The Password That Never Was.” Distinguished Colloquium. March 2014.
- Harvard University “The Password That Never Was.” March 2014.
- University of Waterloo. “The Password That Never Was.” February 2014.
- Carnegie Mellon University “The Password That Never Was.” January 2014.
- Johns Hopkins University “The Password That Never Was.” October 2013.

- Google-UMD Cybersecurity Seminar Series, UMD. “Aggregation and Distribution in Cloud Security.” Invited talk. March 2013.
- Boston University “Aggregation and Distribution in Cloud Security.” March 2013.
- University of Washington. “Aggregation and Distribution in Cloud Security.” February 2013.
- RSA Conference Cryptographers’ Panel (Keynote), San Francisco, CA, USA. Moderator. February 2013.
- Real World Cryptography, Stanford University “The Challenges of Distributing Distributed Cryptography.” Invited talk. January 2013.
- MIT Security Seminar. “Breaks in the Cloud.” November 2012.
- SecureCloud, Frankfurt, Germany. “Aggregation and Distribution in Cloud Security.” Invited talk. May 2012.
- RSA Conference Cryptographers’ Panel (Keynote), San Francisco, CA, USA. Moderator. March 2012.
- Schloss Dagstuhl joint seminar on cloud security, Dagstuhl, Germany. “Crypto in the Cloud or *Ignis Fatuus* in the Swamp?” Keynote talk. December 2011.
- UW MSR Summer Institute, Cle Elum, WA, USA. “Crypto for the Cloud: From the Mythological to the Merely Impossible-Seeming. July 2011.
- RSA Conference Cryptographers’ Panel (Keynote), San Francisco, CA, USA. Moderator. March 2011.
- Workshop on Cryptography and Security in Clouds, ETH-Zurich. “Writing on Wind and Water: Storage Security in the Cloud.” Invited talk. March 2011.
- Microsoft Research, Redmond, WA, USA. “Writing on Wind and Water: Enforcing File Robustness in the Cloud.” August 2010.
- Summer Research Institute (SuRI), EPFL . “Writing on Wind and Water: Enforcing File Robustness in the Cloud.” Invited talk. June 2010.
- RFIDSec, Istanbul, Turkey. “The Physical Basis of RFID Security.” Keynote talk. June 2010.
- RSA Conference Cryptographers’ Panel (Keynote), San Francisco, CA, USA. Moderator. March 2010.
- Authors@Google, “Tetraktys.” San Francisco, CA, USA. March 2010.
- International Workshop on RFID Security and Cryptography (RISC), London, U.K. “Power Games in RFID Security.” Keynote talk. November 2009.
- U.C. Berkeley. “Proofs of Retrievability: Toward RAID in the Cloud.” October 2009.
- RSA Conference Cryptographers’ Panel (Keynote), San Francisco, CA, USA. Moderator. April 2009.
- FTC Workshop on Contactless Payment Technology, Washington, D.C., USA. Panelist. October 2008.
- WiSec, Alexandria, VA, USA. “RFID in the Shoulder and on the Loading Lock.” Keynote talk. March 2008.
- Conference on Hardware and Embedded System Security (CHES), Yokohama, Japan. “The Outer Limits of RFID Security.” Invited talk. October 2006.

- USENIX Security, San Diego, CA, USA. “RFID: Privacy and Security for Five-Cent Computers.” Invited talk. August 2004.
- U.S. Federal Trade Commission RFID Workshop, Washington, D.C., USA. Panelist. June 2004.
- U.S. Senate Judiciary Committee Staff Briefing, Washington, D.C., USA. Panelist. June 2004.
- U.S. Department of Commerce Wireless Sensor Technology Forum, Washington, D.C., USA. Panelist. April 2004.
- l’Ecole Normale Supérieure. “Squealing Euros: Privacy Protection in RFID-Enabled Banknotes” and “Nightingale: Distributed Cryptography for the Masses.” May and June 2003
- M.I.T. Cryptography and Infosec Group. “Fuzzy Commitment.” September 2002.
- United States Patent and Trademark Office. “Selected Topics in Cryptography.” June 2001.
- United States Patent and Trademark Office. “Cryptography: An Introduction and Discussion of Recent Trends.” August 1999.
- Bell Laboratories, Murray Hill, NJ, USA. “Removing Paper-and-Pencil Metaphors from Cryptography.” Invited talk. June 1999.
- Carnegie Mellon University “The Equilibrium Genetic Algorithm.” March 1996.