Mariana Raykova

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EDUCATION

Columbia University, New York, NY 2006-2012

- **Ph.D.**, Computer Science, 2012
- **M.Phil.**, Computer Science, 2010; **GPA** : 4.08/4.00
- **M.S.**, Computer Science, 2008; **GPA** : 4.08/4.00
- Thesis: *Secure Computation in Heterogeneous Environments: How to Bring Multiparty Computation Closer to Practice?*
- Advisors: *Tal Malkin* and *Steven Bellovin*

Bard College, Annandale-on-Hudson, NY 2006

- **B.A.**; Majors : Mathematics, Computer Science; **GPA** : 4.00/4.00

EMPLOYMENT

Google, Research Scientist, *Private Computing Group*	January 2019–Present
Yale University, Assistant Professor, *Department of Computer Science*	January 2016–December 2018
Columbia University, Visiting Researcher, *Data Science Institute*	June 2016–Present
The Alan Turing Institute, Visiting Researcher	August 2017
SRI, Computer Scientist, *Computer Science Laboratory*	September 2013–2015
IBM T.J.Watson Research Center, Postdoc, *Cryptography Group*	August 2012–August 2013
Columbia University, Research Assistant, *Computer Science Department*	2006–2012
Microsoft Research, Redmond, WA, Intern, *Security Group*	June - September, 2011
Microsoft Research, Redmond, WA, Intern, *Cryptography Group*	June - August, 2010
UC Berkeley, Visiting Student Researcher, *advisor: David Wagner*	January - May, 2010
Microsoft Research, Redmond, WA, Intern, *Cryptography Group*	June - August, 2009
Telcordia Technologies, Piscataway, NJ, Intern, *Applied Research Group*	June - August, 2008
Google Inc., Mountain View, CA, Intern, *Security Team*	June - August, 2007
University of Minnesota, Duluth, MN, Undergraduate Researcher *Research Experience for Undergraduates (REU), director: Joseph Gallian*	June - August, 2005
Los Alamos National Laboratory, Los Alamos, NM, Intern, *CCS-5*	June - August, 2004
University of California Los Angeles, Los Angeles, CA, Intern *Research in Industrial Projects for Undergraduates (RIPS)*	June - August, 2003

PUBLICATIONS

RapidChain: A Fast Blockchain Consensus via Full Sharding, Mahdi Zamani, Mahnush Movahedi, Mariana Raykova, *Proceedings of the 25-th ACM Conference on Computer and Communications Security (CCS), 2018*

PanORAMa: Oblivious RAM with Logarithmic Overhead, Sarvar Patel, Giuseppe Persiano, Mariana Raykova, Kevin Yeo, *Proceedings of the 59-th Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2018*

A Simple Obfuscation Scheme for Pattern-Matching with Wildcards, Allison Bishop, Lucas Kowalczyk, Tal Malkin, Valerio Pastro, Mariana Raykova, Kevin Shi, *Proceedings of the 38-th International Cryptology Conference (CRYPTO), 2018*

Obfuscation from Polynomial Hardness: Beyond Decomposable Obfuscation, Yuan Kang, Chengyu Lin, Tal Malkin, Mariana Raykova, *Proceedings of the 11-th Conference on Security and Cryptography for Networks (SCN), 2018*

5Gen-C: Multi-input Functional Encryption and Program Obfuscation for Arithmetic Circuits, Alex J. Malozemoff, Brent Carmer, Mariana Raykova, *Proceedings of the 24-th ACM Conference on Computer and Communications Security (CCS), 2017*

Optimal-Rate Non-committing Encryption, Ran Canetti, Oxana Poburinnaya, Mariana Raykova, *Proceedings of the* 23^{rd} *Annual International Conference on the Theory and Applications of Cryptology and Information Security (ASIACRYPT) 2017*

Privacy-Preserving Distributed Linear Regression on High-Dimensional Data, Adrià Gascón, Phillipp Schoppmann, Borja Balle, Mariana Raykova, Jack Doerner, Samee Zahur, David Evans, *Proceedings of the* 17^{th} *Privacy Enhancing Technologies Symposium (PETS), 2017*

Multi-Input Inner-Product Functional Encryption from Pairings, Michel Abdalla, Romain Gay, Mariana Raykova, Hoeteck Wee, *Proceedings of the the* 36^{th} *Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT), 2017*

Low-Leakage Secure Search for Boolean Expressions, Fernando Krell, Gabriela Ciocarlie, Ashish Gehani, Mariana Raykova, *Proceedings of The Cryptographers' Track at the RSA Conference (CT-RSA) 2017*

Adaptive Succinct Garbled RAM or: How To Delegate Your Database, Ran Canetti, Yilei Chen, Justin Holmgren, Mariana Raykova, *Proceedings of the* 14^{th} *Theory of Cryptography Conference (TCC-B), 2016*

5Gen: A Framework for Prototyping Applications Using Multilinear Maps and Matrix Branching Programs, Kevin Lewi, Alex J. Malozemoff, Daniel Apon, Brent Carmer, Adam Foltzer, Daniel Wagner, David W. Archer, Dan Boneh, Jonathan Katz, Mariana Raykova, *Proceedings of the* 23^{rd} *ACM Conference on Computer and Communications Security (CCS), 2016*

Pinocchio: Nearly Practical Verifiable Computation, Bryan Parno, Craig Gentry, Jon Howell, Mariana Raykova, *Communications of the ACM, 59(2), 2016*

Hiding secrets in software: a cryptographic approach to program obfuscation, Sanjam Garg, Craig Gentry, Shai Halevi, Mariana Raykova, Amit Sahai, Brent Waters, *Communications of the ACM, 59(5), 2016*

Candidate Indistinguishability Obfuscation and Functional Encryption for All Circuits, Sanjam Garg, Craig Gentry, Shai Halevi, Mariana Raykova, Amit Sahai, Brent Waters, *SIAM Journal of Computing, 45(3), 2016*

Revisiting Square-Root ORAM: Efficient Random Access in Multi-Party Computation, Samee Zahur, Xiao Wang, Mariana Raykova, Adrià Gascón, Jack Doerner, David Evans, Jonathan Katz *Proceedings of the* 37^{th} *IEEE Symposium on Security and Privacy, 2016*

Decentralized Authorization and Privacy-Enhanced Routing for Information-Centric Networks, Mariana Raykova, Hasnain Lakhani, Hasanat Kazmi, Ashish Gehani, *Proceedings of the Annual Computer Security Applications Conference (ACSAC), 2015*

Zeroizing Without Low-level Zeroes: New Attacks on Multilinear Maps and Their Limitations, Jean-Sébastien Coron, Craig Gentry, Shai Halevi, Tancrède Lepoint, Hemanta K. Maji, Eric Miles, Mariana Raykova, Amit Sahai, Mehdi Tibouchi, *Proceedings of the 35-th International Cryptology Conference (CRYPTO), 2015*

Private Database Access With HE-over-ORAM Architecture, Craig Gentry, Shai Halevi, Charanjit Jutla, Mariana Raykova, *Proceedings of the 13-th International Conference on Applied Cryptography and Network Security (ACNS), 2015*

Semantically Secure Order-Revealing Encryption: Multi-Input Functional Encryption Without Obfuscation, Dan Boneh, Kevin Lewi, Mariana Raykova, Amit Sahai, Mark Zhandry, Joe Zimmerman, *Proceedings of the* 34^{th} *Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT), 2015*

Outsourcing Private RAM Computation, Craig Gentry, Shai Halevi, Mariana Raykova, Daniel Wichs, *Proceedings of the* 55^{th} *IEEE Symposium on Foundations of Computer Science (FOCS), 2014*

Garbled RAM Revisited, Craig Gentry, Shai Halevi, Steve Lu, Rafail Ostrovsky, Mariana Raykova, Daniel Wichs, *Proceedings of the* 33^{d} *Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT), 2014*

Two-round secure MPC from Indistinguishability Obfuscation, Sanjam Garg, Craig Gentry, Shai Halevi, Mariana Raykova, *Proceedings of the* 11^{th} *Theory of Cryptography Conference (TCC), pp. 74-94 2014*

Co-Location-Resistant Clouds, Yossi Azar, Seny Kamara, Ishai Menache, Mariana Raykova, Bruce Shepherd, *Proceedings of the ACM Cloud Computing Security Workshop (CCSW), 2014*

Scaling Private Set Intersection to Billion-Element Sets, Seny Kamara, Payman Mohassel, Mariana Raykova, Saeed Sadeghian, *Proceedings of the 18th International Conference on Financial Cryptography and Data Security (FC), 2014*

Candidate Indistinguishability Obfuscation and Functional Encryption for All Circuits, Sanjam Garg, Craig Gentry, Shai Halevi, Mariana Raykova, Amit Sahai, Brent Waters, *Proceedings of the IEEE* 54^{th} *Symposium of Foundations of Computer Science (FOCS), pp.40-49, 2013*

Pinocchio: Nearly Practical Verifiable Computation, Bryan Parno, Craig Gentry, Jon Howell, Mariana Raykova, *Proceedings of the* 34^{th} *IEEE Symposium on Security and Privacy, pp.238-252, 2013,* ***Best Paper Award***

Quadratic Span Programs and Succinct NIZKs without PCPs, Rosario Gennaro, Craig Gentry, Bryan Parno, Mariana Raykova, *Proceedings of the* 32^{nd} *Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT), pp.626-645, 2013*

Optimizing ORAM and Using It Efficiently for Secure Computation, Craig Gentry, Kenny A. Goldman, Shai Halevi, Charanjit S. Jutla, Mariana Raykova, Daniel Wichs, *Proceedings of the* 13^{th} *Privacy Enhancing Technologies Symposium (PETS), pp.1-18, 2013*

Adaptive and Concurrent Secure Computation from New Notions of Non-Malleability, Dana Dachman-Soled, Tal Malkin, Mariana Raykova, Muthuramakrishnan Venkitasubramaniam, *Proceedings of the 19th International Conference on the Theory and Application of Cryptology and Information Security (ASIACRYPT), pp.316-336, 2013*

Shroud: Enabling Private Access to Large-Scale Data in the Data Center, Jacob R. Lorch, James Mickens, Bryan Parno, Mariana Raykova, Joshua Schiffman, *Proceedings of the 11th USENIX conference on File and Storage Technologies (FAST), pp.199-214, 2013*

Parallel Homomorphic Encryption, Seny Kamara, Mariana Raykova, *Workshop on Applied Homomorphic Cryptography (WAHC), pp. 213-225, 2013*

Secure Computation for Heterogeneous Environments, Mariana Raykova, *PhD Thesis, Columbia University, 2012*

Secure Computation with Sublinear Amortized Work, Dov Gordon, Jonathan Katz, Vladimir Kolesnikov, Fernando Krell, Tal Malkin, Mariana Raykova, Yevgeniy Vahlis, *Proceedings of the* 19^{th} *ACM Conference on Computer and Communications Security (CCS), pp. 513-524, 2012*

How to Delegate and Verify in Public: Verifiable Computation from Attribute-based Encryption, Bryan Parno, Mariana Raykova, Vinod Vaikuntanathan, *Proceedings of the* 9^{th} *Theory of Cryptography Conference (TCC), pp. 422-439, 2012*

Privacy Enhanced Access Control for Outsourced Data Sharing, Mariana Raykova, Hang Zhao, Steven Bellovin, *Proceedings of the 16th International Conference on Financial Cryptography and Data Security (FC), pp. 223-238, 2012*

Efficient Robust Private Set Intersection, Dana Dachman-Soled, Tal Malkin, Mariana Raykova, Moti Yung, *International Journal of Advancements in Computing Technology (IJACT), Vol. 2, No. 3, pp.289-303, 2012*

Outsourcing Multi-Party Computation, Seny Kamara, Payman Mohassel, Mariana Raykova, *Cryptology ePrint Archive: Report 2011/272, 2011*

Secure Efficient Multiparty Computing of Multivariate Polynomials and Applications, Dana Dachman-Soled, Tal Malkin, Mariana Raykova, Moti Yung, *Proceedings of the 9th International Conference Applied Cryptography and Network Security (ACNS), pp.130-146, 2011*

Private Search in the Real World, Vasilis Pappas, Mariana Raykova, Binh Vo, Steven Bellovin, Tal Malkin, *Proceedings of the 27th Annual Computer Security Applications Conference (ACSAC), pp.83-92, 2011*

Amortized Sublinear Secure Multi Party Computation, Dov Gordon, Jonathan Katz, Vladimir Kolesnikov, Tal Malkin, Mariana Raykova, Yevgeniy Vahlis, *Workshop on Cryptography and Security in Clouds, IBM Zurich, 2011*

Secure Outsourced Computation in a Multi-Tenant Cloud, Seny Kamara, Mariana Raykova, *Workshop on Cryptography and Security in Clouds, IBM Zurich, 2011*

Usable Secure Private Search, Mariana Raykova, Ang Cui, Binh Vo, Bin Liu, Tal Malkin, Steven M. Bellovin, Salvatore J. Stolfo, *IEEE Security & Privacy, vol.10, issue 5, pp.53-60, 2012*

Verifiable Remote Voting with Large Scale Coercion Resistance, Mariana Raykova, David Wagner, *Technical Report CUCS-041-11, Columbia University, 2011*

Secure Anonymous Database Search, Mariana Raykova, Binh Vo, Steven Bellovin, Tal Malkin, *Proceedings of the* 1^{st} *Cloud Computing Security Workshop (CCSW), pp.115-126, 2009*

Efficient Robust Private Set Intersection, Dana Dachman-Soled, Tal Malkin, Mariana Raykova, Moti Yung, *Proceedings of the 7th International Conference Applied Cryptography and Network Security (ACNS), pp. 125-142, 2009*

The Zodiac Policy Subsystem: a Policy-Based Management System for a High-security MANET, Yuu-Heng Cheng, Scott Alexander, Alexander Poylisher, Mariana Raykova, Steven Bellovin, *Proceedings of the 10th IEEE international Conference on Policies for Distributed Systems and Networks (POLICY), pp.174-177, 2009*

PAR: Paying for Anonymous Routing, Elli Androulaki, Mariana Raykova, Shreyas Srivatsan, Angelos Stavrou, and Steven M. Bellovin, *Proceedings of the 8th International Symposium on Privacy Enhancing Technologies Symposium (PETS), pp.219-236, 2008*

RUST: A Retargetable Usability Testbed for Web Site Authentication Technologies, Maritza Johnson, Chaitanya Atreya, Adam Aviv, Mariana Raykova, Steven Bellovin, Gail Kaiser,*Proceedings of the* 1^{st} *Conference on Usability, Psychology, and Security (UPSEC), pp.11:1-11:7, 2008*

Permutation Reconstruction from Minors, Mariana Raykova, *Electronic Journal of Combinatorics, vol.13, issue 3, R66, 2006*

Research Project on SHA1, Mariana Raykova, *Senior Project, Bard College, 2006*

Sequential Dynamical Systems, Mariana Raykova, *Senior Project, Bard College, 2005*

Image Correction, Mariana Raykova, Hayward Chan, Balint Felszeghy, Jiashen You, *Final Report, RIPS, IPAM, UCLA, 2003*

FUNDING and AWARDS

John and Samuel Bard Award in Medicine and Science, Bard College, May 2017

Google Faculty Award, $64,977, February 2017

NSF CNS 1421102/1633282: TWC: Small: Collaborative: Computation and Access Control on Big Multiuser Data, $320,941, August 2014 - July 2017

NSF CNS 1562888: TWC: Medium: Collaborative: New Protocols and Systems for RAM-Based Secure Computation, $364,769, May 2016 - May 2019

NSF CNS 1565208: TWC: Large: Collaborative: Verifiable Hardware: Chips that Prove their Own Correctness, $540,000, May 2016 - May 2021

DARPA SafeWare TA2 Contract No W911NF-15-C-0236: CONCEAL Cryptographic ObfuscatioN of CodE and ALgorithms, $519,843, August 2015 - July 2019

DARPA Grant W911NF-16-1-0389: OSO: Optimizing and Strengthening Obfuscation, $300,000, July 2016 - June 2019

PATENTS

Secure Computation Using a Server Module, Mariana Raykova, Seny Kamara, *United States Patent and Trademark Office, Patent No.: US 8,539,220 B2, Sep 17, 2013*

Counting Delegation Using Hidden Vector Encryption, Mariana Raykova, Seny Kamara, *United States Patent and Trademark Office, Patent No.: US 8,370,621 B2, Feb 5, 2013*

Secure Computing in Multi-Tenant Data Centers, Seny Kamara, Mariana Raykova, *United States Patent and Trademark Office, Publication number: US 2012/0185946 A1, Jul 19, 2012*

Polynomial Evaluation Delegation, Seny Kamara, Mariana Raykova, *United States Patent and Trademark Office, Publication number: US 2012/0151205 A1, Jun 14, 2012*

PROGRAM COMMITTEES

The 17th Theory of Cryptography Conference (TCC), Nuremberg, Germany, 2019

The 39th IACR International Cryptology Conference (CRYPTO), Santa Barbara, USA, 2019

The 36th International Conference on Machine Learning (ICML), Long Beach, USA, 2019

The 40th IEEE Symposium on Security and Privacy (S&P), San Francisco, USA, 2019

The 39th IEEE Symposium on Security and Privacy (S&P), San Francisco, USA, 2018

The 24th ACM Conference on Computer and Communications Security (CCS), Dallas, USA, 2017

The 15th IACR Theory of Cryptography Conference (TCC), Baltimore, USA, 2017

The 38th IEEE Symposium on Security and Privacy (S&P), San Jose, USA, 2017

The 38th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), External Review Committee, Barcelona, Spain, 2017

The ACM Cloud Computing Security Workshop (CCSW), Vienna, Austria, USA, 2016

The 36th IACR International Cryptology Conference (CRYPTO), Santa Barbara, USA, 2016

The 35th Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT), Vienna, Austria, 2016

The ACM Cloud Computing Security Workshop (CCSW), Denver, Colorado, USA, 2015

The 35th IACR International Cryptology Conference (CRYPTO), Santa Barbara, USA, 2015

The 12th IACR Theory of Cryptography Conference (TCC), Warsaw, Poland, 2015

The 21st ACM Conference on Computer and Communications Security (CCS), Scottsdale, Arizona, USA, 2014

The ACM Cloud Computing Security Workshop (CCSW), Scottsdale, Arizona, USA, 2014

The 17th IACR International Conference on Practice and Theory of Public-Key Cryptography (PKC), Buenos Aires, Argentina, 2013

The ACM Cloud Computing Security Workshop (CCSW), Berlin, Germany, 2013

The ACM Cloud Computing Security Workshop (CCSW), Raleigh, USA, 2012

The 8th China International Conference on Information Security and Cryptology (INSCRYPT), Beijing, China, 2012

ORGANIZATION AND ADVISORY ROLES

Organizing committee, Privacy Preserving Machine Learning (PPML) Workshop, co-hosted with NeurIPS, Montreal, 2018

Member of the United Nations Task Team on Privacy Preserving Technologies, 2018-Present

Organizing committee, DIMACS/MACS Workshop on Cryptography for the RAM Model of Computation, MIT, June, 2016

TALKS

Invited Talk: **Advanced Cryptography on the Way to Practice.**

- Real World Cryptography (RWC), 2019

Research Talk: **PanORAMa: Oblivious RAM with Logarithmic Overhead.**

- Stanford University, May 2018
- NYC Crypto Day, October 2018

Invited Talk: **Secure Computation with RAMs: Revisiting Square Root ORAM and Low Leakage Secure Boolean Queries**

- Theory and Practice of Multi-Party Computation Workshops, Bristol, April 2017
- The Alan Turing Institute, London, August 2017

Invited Talk: **Secure Computation: Why, How, When**

- Private Multi-Party Machine Learning Workshop (PMPML), NIPS Barcelona, December 2016

Invited Talk: **5Gen: a framework for prototyping applications using multilinear maps and matrix branching programs**

- White-Box Cryptography and Obfuscation Workshop, Santa Barbara, August, 2016

- DIMACS/CEF Workshop on Cryptography and Software Obfuscation, Stanford University, November, 2016

Invited Talk: **Succinct Adaptive Garbled RAM**

- Simons Institute Cryptography Reunion Workshop, August, 2016
- New York Area Theory Day, April, 2016

Invited Talk: **Secure Linear Regression on Vertically Partitioned Datasets**

- DIMACS/MACS Workshop on Cryptography for the RAM Model of Computation, MIT, June, 2016

Conference Talk: **Interesting Questions in Cryptography**

- Grace Hopper Celebration of Women in Computing, October 8-10, 2014

Invited Talk: **Candidate Indistinguishability Obfuscation and Functional Encryption for All Circuits**

- 52nd Annual Allerton Conference on Communication, Control, and Computing, October 1-3, 2014

Workshop Talk: **Secure Computation with Random Access Machines**

- Workshop on Applied Multi-Party Computation, Microsoft Research Redmond, February 20-21, 2014

Research Talk: **Candidate Indistinguishability Obfuscation and Functional Encryption for All Circuits**

- Microsoft Research, Silicon Valley, 2014
- Microsoft Research Redmond, 2014
- University College London, 2015
- Ècole Normale Supèrieure, Paris, 2015
- University of Edinburgh, 2015
- Aarhus University, 2015

Research Talk: **Succinct NIZKs from Quadratic Span Programs (QSPs) and Quadratic Arithmetic Programs (QAPs), and Pinocchio - a system for nearly practical verifiable computation.**

- Stanford University, 2013
- NYC Crypto Day, 2013

Conference Talk: **Quadratic Span Programs and Succinct NIZKs without PCPs**

- Eurocrypt, Athens, Greece, 2013

Research Talk: **Quadratic Span Programs and Succinct NIZKs without PCPs**

- University of Toronto, 2012

Research Talk: **How to Delegate and Verify in Public: Verifiable Computation from Attribute-based Encryption**

- Microsoft Research, Redmond, 2011; IBM Research, Hawthorne, 2011; New York University, 2011; Columbia University, 2011

Conference Talk: **Secure Computation with Sublinear Amortized Work**

- Conference on Computer and Communications Security (CCS), Raleigh, USA, 2012;
- IBM Research, Hawthorne, 2011; Microsoft Research, Redmond, 2011; PARC, 2011; Stanford University, 2011; UC Berkeley, 2011; Technical University of Catalonia (UPC), 2011

Conference Talk: **Multiparty Secure Computation over Multivariate Polynomials**

- Applied Cryptography and Network Security (ACNS), Nerja, Spain, 2011

Poster Presentation: **Trade-offs in Private Search**

- IEEE Symposium on Security and Privacy, Oakland, USA, 2010

Poster Presentation: **Secure Anonymous Database Search**

- ACM Conference on Computer and Communications Security (CCS), Chicago, USA, 2009

Conference Talk: **Secure Anonymous Database Search**

- The ACM Cloud Computing Security Workshop (CCSW), Chicago, USA, 2009

Conference Talk: **Efficient Robust Private Set Intersection**

- Applied Cryptography and Network Security (ACNS), Paris-Rocquencourt, France, 2009

TEACHING EXPERIENCE

Yale University, *Instructor,* ***Cryptography & Computer Security*** 2016
Yale University, *Instructor,* ***Advanced Cryptography Seminar*** 2016, 2017
Columbia University, *Teaching Assistant,* ***Network Security*** 2009
Columbia University, *Teaching Assistant,* ***Introduction to Cryptography*** 2008
Columbia University, *Teaching Assistant,* ***Calculus*** 2006
Bard College, *Tutor,* ***Mathematics*** 2002-2006

ADVISING

POSTDOC

- **Valerio Pastro**, Yale University, *Postdoctoral Researcher, Yale University* 2016-2017
- **Mahnush Movahedi**, Yale University, *Postdoctoral Researcher, Yale University* 2016-2017

GRADUATE

- **Talley Amir**, *PhD Student, Yale University* 2018
- **Jaspal Singh**, *PhD Student, Yale University* 2017-2018
- **Ning Luo**, *PhD Student, Yale University* 2017-2018
- **James Miller**, *PhD Student, Yale University* 2017-2018
- **Caleb Malchik**, *PhD Student, Yale University* 2017-2018
- **Brent Carmer**, Oregon State University, *Visiting Graduate Researcher, Yale University* 2016-2017
- **Anca Nitulescu**, ENS Paris, *Visiting Graduate Researcher, Yale University* 2016
- **Saleet Klein**, Tel Aviv University/MIT, *Visiting Graduate Researcher, Yale University* 2016
- **Samee Zahur**, University of Virginia, *Summer Intern, SRI* 2015
- **Xiao Wang**, University of Maryland, *Summer Intern, SRI* 2015
- **Oxana Poburinnaya**, Boston University, *Summer Intern, SRI* 2015
- **Yilei Chen**, Boston University, *Summer Intern, SRI* 2015
- **Fernando Krell**, Columbia University, *Summer Intern, SRI* 2014
- **Muhammad Naveed**, University of Illinois Urbana Champagne, *Summer Intern, SRI* 2014

UNDERGRADUATE

- **Jayshree Sarathy**, Yale University, *Undergraduate Researcher, Yale University* 2016-2018
- **Valerie Chen**, Yale University, *Undergraduate Researcher, Yale University* 2016-2018
- **Adit Sinha**, Yale University, *Undergraduate Researcher, Yale University* 2016-2017

THESIS COMMITTEE MEMBER

- **Brent Carmer**, Oregon State University 2018
- **Matteo Campanelli**, The City University of New York 2018
- **Wenjie Xiong**, Yale University