JOEL A. TROPP

curriculum vitae

CONTACT INFORMATION

Title: Steele Family Professor of Applied & Computational Mathematics
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Office: Annenberg Center, Room 307
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ACADEMIC POSITIONS

Steele Family Professor of Applied & Computational Mathematics
Division of Engineering and Applied Science, Caltech, May 2017–Present

Professor of Applied & Computational Mathematics
Division of Engineering and Applied Science, Caltech, Mar. 2012–April 2017

Assistant Professor of Applied & Computational Mathematics
Division of Engineering and Applied Science, Caltech, Aug. 2007–Feb. 2012

T. H. Hildebrandt Research Assistant Professor and **NSF Postdoctoral Fellow**
Mathematics Dept., Univ. Michigan at Ann Arbor, Sep. 2005–July 2007

Research Assistant Professor
Mathematics Dept., Univ. Michigan at Ann Arbor, Sep. 2004–Aug. 2005

EDUCATION

PhD in **Computational and Applied Mathematics**
Univ. Texas at Austin, Aug. 2004
Dissertation Title: *Topics in Sparse Approximation*. Advisors: I. S. Dhillon and A. C. Gilbert.

MS in **Computational and Applied Mathematics**
Univ. Texas at Austin, May 2001

BS in **Mathematics** with Special Honors
BA in **Plan II Liberal Arts Honors**
Graduated *magna cum laude* with concentrations in **Computer Science** and **Latin**
Univ. Texas at Austin, May 1999
Senior Thesis Title: *Infinitesimals: History and Application*. Advisor: J. L. Bona.

SELECTED HONORS AND AWARDS

Richard P. Feynman Prize for Excellence in Teaching at Caltech, 2025

IMS Fellow, 2024

IEEE Fellow, 2020

SIAM Fellow, 2019

Clarivate Analytics Highly Cited Researcher (Computer Science, 2017; Cross-Field, 2018)

Thomson-Reuters Highly Cited Researcher (Computer Science, 2014, 2015, and 2016)

SIAM Invited Address at the Joint Mathematical Meetings, 2015

SIAM Outstanding Paper Prize, 2011

Eighth Monroe H. Martin Prize, 2011

EUSIPCO Best Paper Award, 2010

Alfred P. Sloan Research Fellowship, 2010

Sixth Vasil A. Popov Prize, 2010

2008 Presidential Early Career Award for Scientists and Engineers (PECASE), presented Jan. 2010

The Associated Students of Caltech (ASCIT) 32nd Annual Award for Excellence in Teaching, 2008

ONR Young Investigator Program (YIP), 2008

NSF Mathematical Sciences Postdoctoral Research Fellowship, 2005

NSF Graduate Fellowship (Applied Mathematics), 2000

PRODUCTS OF SCHOLARLY ACTIVITY

Lists of research publications and presentations are available separately.

COURSES TAUGHT

Caltech

Probability Theory and Computational Mathematics, CMS/ACM 117. Fall 2019, Fall 2020, Fall 2021, Fall 2022, Fall 2023, Fall 2024.

Matrix Analysis, ACM 204. Winter 2015, Fall 2017, Winter 2022, Spring 2025.

Random Matrix Theory, ACM 217. Winter 2024.

High-Dimensional Probability, ACM 217. Winter 2018, Winter 2019, Winter 2023.

Randomized Linear Algebra, ACM/IDS 204. Winter 2020.

Convex Geometry, ACM/IDS 204. Fall 2018.

Concentration Inequalities, ACM 217. Fall 2013 and Winter 2017.

Applied Real and Functional Analysis, ACM 105. Winter 2016.

Linear Algebra and Applied Operator Theory, ACM 104. Fall 2014 and Fall 2015.

Introduction to Optimization, ACM 113. Winter 2011, Winter 2012, and Winter 2013.

Markov Chains, Discrete Stochastic Process, and Applications, ACM 216. Winter 2010, Winter 2011, and Spring 2012.

Introduction to Probability and Random Processes with Applications, ACM 116. Fall 2012.

Methods of Applied Statistics and Data Analysis, ACM/ESE 118. Winter 2008 and Fall 2009.

Wavelets and Modern Signal Processing, ACM 126ab. Winter and Spring 2009.

University of Michigan at Ann Arbor

Numerical Analysis of Wavelet Methods, reading course. Fall 2006.

Theory of Algorithms, Math 416. Fall 2006.

Introduction to Numerical Methods, Math 471. Fall 2005 and Fall 2006.

Introduction to Probability, Math 425. Fall 2005.

Calculus II, Math 116. Winter 2005.

Calculus I, Math 115. Fall 2004.

RESEARCH ADVISING AND MENTORING

Postdoctoral Supervision

Raphael Meyer, Postdoctoral Fellow, Caltech, Fall 2024–Summer 2025.

Jorge Garza-Vargas, Center for Mathematics of Information (CMI) Postdoctoral Fellow, Caltech, Winter 2023–Summer 2025.

Robert J. Webber, Computational Mathematics + X (CMX) Postdoctoral Fellow, Caltech, Fall 2021–Summer 2024. Currently Asst. Prof. Mathematics at Univ. California at San Diego.

Mateo Díaz, Computational Mathematics + X (CMX) Postdoctoral Fellow, Caltech, Fall 2021–Present. Supervised with Venkat Chandrasekaran. Currently Asst. Prof. Applied Math, Johns Hopkins Univ.

Eliza O'Reilly, NSF Mathematical Sciences Postdoctoral Research Fellow (Fall 2020–Sumer 2022) and Center for Mathematics of Information (CMI) Postdoctoral Fellow (Fall 2019–Summer 2023), Caltech. Supervised with Venkat Chandrasekaran. Currently Asst. Prof. Applied Math, Johns Hopkins Univ..

Richard Kueng, IQIM Postdoctoral Scholar, Caltech, Fall 2017–Winter 2020. Currently Prof. Computing Technologies, Univ. Linz.

Ke Wang, Postdoctoral Scholar, Caltech, Summer 2015–Summer 2016. Currently Asst. Prof. Mathematics, Hong Kong Univ. Science & Technology (HKUST).

Madeleine Udell, Center for Mathematics of Information (CMI) Postdoctoral Fellow, Caltech, Summer 2015–Summer 2016. Currently Asst. Prof. Management Science & Engineering, Stanford Univ.

Brendan Ames, von Kármán Instructor, Caltech, Fall 2013–Summer 2014. Currently Assoc. Prof. Mathematics at Univ. Alabama.

Michael B. McCoy, Postdoctoral Scholar, Caltech, Summer 2013–Spring 2014.

Rashad Moarref, Postdoctoral Scholar, Caltech, Winter 2012–Summer 2014. Supervised with Beverley McKeon.

Brendan Farrell, von Kármán Instructor, Caltech, Fall 2011–Summer 2013; Postdoctoral Scholar, Caltech, Fall 2013–Spring 2014.

Risi Kondor. CMI Postdoctoral Fellow, Caltech, Fall 2009–Summer 2011. Supervised with Andreas Krause. Currently Assoc. Prof. Statistics, Univ. Chicago.

Doctoral Advising

Chris Camaño, Computing & Mathematical Sciences, Caltech, expected graduation 2029.

Ethan N. Epperly, Applied & Computational Mathematics, Caltech, expected graduation 2025.

John J. Bruer, PhD Applied & Computational Mathematics, Caltech, January 2017.
Dissertation title: *Recovering structured low-rank operators using nuclear norms.*

Richard Y. Chen, PhD Applied & Computational Mathematics, Caltech, July 2016.
Dissertation title: *Concentration inequalities of random matrices and solving ptychography with a convex relaxation.*

Alex Gittens, PhD Applied & Computational Mathematics, Caltech, June 2013.
Dissertation title: *Topics in randomized numerical linear algebra.*
Currently Asst. Prof. Computer Science, Rensselaer Polytechnic Institute.

Michael B. McCoy, PhD Applied & Computational Mathematics, Caltech, June 2013.
Dissertation title: *A geometric analysis of convex demixing.*

Peter Stobbe, PhD Applied & Computational Mathematics, Caltech, June 2013. Supervised with Andreas Krause.
Dissertation title: *Convex analysis for minimizing and learning submodular set functions.*

MENTORING

I have also worked closely with many other students and postdocs on technical collaborations and aspects of career development. These include **Chi-Fang Anthony Chen** (postdoc, MIT), **Hsin-Yuan Robert Huang** (Asst. Prof. Physics, Caltech), **De Huang** (Asst. Prof. Mathematics, Peking Univ.), **Florian Schaefer** (Asst. Prof. Computational Science and Engineering, Georgia Tech), **Alp Yurtsever** (Asst. Prof. Machine Learning, Umeå), **Franca Hoffmann** (Asst. Prof. Applied and Computational Mathematics, Caltech), **Samet Oymak** (Asst. Prof. Electrical Engineering, UM-Ann Arbor), **Roarke Horstmeyer** (Asst. Prof. Electrical Engineering, Duke), **Lester Mackey** (Senior Researcher MSR; MacArthur Fellow), and **Deanna Needell** (Dunn Family Chair, Prof. Mathematics, UCLA).

DOCTORAL COMMITTEES

Chi-Fang Anthony Chen, PhD Physics, Caltech 2024.
Advisor: F. G. S. L. Brandão. Dissertation title: *Quantum Gibbs sampling.*

Hsin-Yuan Robert Huang, PhD Computing and Mathematical Sciences, Caltech 2023.
Advisors: J. Preskill and T. Vidick. Dissertation title: *Learning in the quantum universe.*

Ziyun Zhang, PhD Applied and Computational Mathematics, Caltech 2023.
Advisor: T. Hou. Dissertation title: *Manifold geometry and global convergence.*

Jeremy Bernstein, PhD Computing and Neural Systems, Caltech 2022.
Advisor: Y. Yue. Dissertation title: *Optimization & Generalization in Networks of Neurons.*

Florian Schaefer, PhD Applied and Computational Mathematics, Caltech 2021.
Advisor: H. Owhadi. Dissertation title: *Information, Computation, and Games*

Riley Murray, PhD Computing and Mathematical Sciences, Caltech 2021.
Advisor: V. Chandrasekaran. Dissertation title: *Applications of convex analysis to signomial and polynomial negativity problems*

Ahmed Douik, PhD Electrical Engineering, Caltech 2020.
Advisor: B. Hassibi. Dissertation title: *Riemannian optimization for convex and non-convex signal processing and machine learning applications.*

Ehsan Abbasi, PhD Electrical Engineering, Caltech 2020.
Advisor: B. Hassibi. Dissertation title: *Universality Laws for Generalized Linear Models.*

Alp Yurtsever, PhD Electrical Engineering, EPFL 2019.
Advisor: V. Cevher. Dissertation title: *Scalable convex optimization methods for semidefinite programming.*

Yong Sheng Soh, PhD Applied & Computational Mathematics, Caltech 2018.
Advisor: V. Chandrasekaran. Dissertation title: *Fitting convex sets to data: Algorithms and applications.*

Christos Thrampoulidis, PhD Electrical & Computer Engineering, Caltech 2016.
Advisor: B. Hassibi. Dissertation title: *Recovering structured signals in high dimensions via non-smooth convex optimization: Precise performance analysis.*

Kishore Jaganathan, PhD Electrical & Computer Engineering, Caltech 2016.
Advisor: B. Hassibi. Dissertation title: *Convex programming-based phase retrieval: Theory and applications.*

Krishna Shankar, PhD Mechanical & Civil Engineering, Caltech 2016.
Advisor: J. Burdick. Dissertation title: *Kinematics and local motion planning for quasi-static whole-body mobile manipulation.*

Roarke Horstmeyer, PhD Electrical & Computer Engineering, Caltech 2015.
Advisor: C. Yang. Dissertation title: *Computational microscopy: turning megapixels into gigapixels.*

Samet Oymak, PhD Electrical & Computer Engineering, Caltech, 2014.
Advisor: B. Hassibi. Dissertation title: *Convex relaxation for low-dimensional representation: Phase transitions and limitations.*

Hyoung Jun Ahn, PhD Applied & Computational Mathematics, Caltech, 2014.
Advisor: B. Hassibi. Dissertation title: *Random propagation in complex systems: Nonlinear matrix recursions and epidemic spread.*

Matthew Faulkner, PhD Computer Science, Caltech, 2014.
Advisor: A. Krause. Dissertation title: *Community sense and response systems.*

Anastasios Zouzias, PhD Computer Science, Univ. Toronto, 2013.
Advisor: M. Braverman. Dissertation title: *Randomized primitives for linear algebra and applications*.

Juhwan Yoo, PhD Electrical & Computer Engineering, Caltech, 2012.
Advisor: B. Hassibi. Dissertation title: *Compressed sensing receivers: Theory, design and performance limits*.

Amin Khajehnejad, PhD Electrical & Computer Engineering, Caltech, 2012.
Advisor: B. Hassibi. Dissertation title: *Combinatorial regression and improved basis pursuit for sparse estimation.*

Svitlana Vyetrenko, PhD Applied & Computational Mathematics, Caltech, 2011.
Advisor: T. Ho. Dissertation title: *Network coding for error correction*.

Stephen Becker, PhD Applied & Computational Mathematics, Caltech, 2011.
Advisor: E. Candès. Dissertation title: *Practical Compressed Sensing: Modern Data Acquisition and Signal Processing.*

Yaniv Plan, PhD Applied & Computational Mathematics, Caltech, 2011.
Advisor: E. Candès. Dissertation title: *Compressed Sensing, Sparse Approximation, and Low-Rank Matrix Estimation.*

Weiyu Xu, PhD Electrical Engineering, Caltech, 2009.
Advisor: B. Hassibi. Dissertation title: *Compressive Sensing for Sparse Approximation: Constructions, Algorithms, and Analysis*.

Ali Vakili, PhD Electrical Engineering, Caltech, 2009.
Advisor: B. Hassibi. Dissertation title: *Randomized Matrix Recursions in Estimation, Control, and Adaptive Filtering.*

Paige Randall, PhD Applied & Computational Mathematics, Caltech, 2009.
Advisor: E. Candès. Dissertation title: *Sparse Recovery via Convex Optimization*.

Sarah Sweatlock, PhD Applied & Computational Mathematics, Caltech, 2008.
Advisor: R. McEliece. Dissertation title: *Asymptotic Weight Analysis of LDPC Code Ensembles.*

Julia Lipman, PhD Computer Science, Univ. Michigan at Ann Arbor, 2007.
Advisor: Q. Stout. Dissertation title: *Performance Analysis of Local Synchronization*.

PROFESSIONAL SERVICE

Current University Administration (Caltech)

Computing & Mathematical Sciences (CMS) Teaching Assistant Professor Search Committee (chair), AY 2024.

CMS Option Representative, AY 2017, AY 2021–2022, AY 2024.

CMS Postdoctoral Committee Chair, AY 2022–AY 2024.

von Kármán Instructor Search Committee, AY 2019, AY 2021, AY 2024.

Various mentoring and promotion committees. Ongoing.

Past University Administration (Caltech)

Ad Hoc Online Curriculum Committee, July 2013–June 2018.

Amazon AI4Science Fellows Selection Committee chair, Fall 2018 and Fall 2020.

Center for Mathematics of Information (CMI) Postdoctoral Scholar Search Committee, Fall 2017 and Fall 2020.

Target of Interest Faculty Search Committee, Fall 2018.

Faculty Search Committee in CMS, Aug. 2017–Feb. 2018. Chair, Mar. 2018–July 2018.

Faculty Board Nominating Committee, Feb. 2017–Jan. 2019.

Faculty Search Committee in CMS, Chair, Sep. 2015–June 2016.

Faculty Board Steering Committee, Sep. 2016–June 2018.

Faculty Search Committee in CMS, Oct. 2014–Aug. 2015.

CMS Colloquium Chair, May 2014–June 2015.

Core Curriculum Steering Committee, July 2013–June 2016.

Committee on Moore/Sloan Solicitation for Data Science Challenges, Dec. 2012–Jan. 2013.

Faculty Search Committee in CMS, Oct. 2012–Apr. 2013.

Faculty Board, elected member, July 2012–June 2018.

Faculty Search Committee in Applied & Computational Mathematics (ACM), Jan. 2010–May 2012. Chair, Oct. 2011–May 2012.

ACM Colloquium Chair, May 2008–Apr. 2014.

Extramural Administration

SIAM Council, Jan. 2016–Dec. 2021.

AMS Short Course Subcommittee, Feb. 2016–Jan. 2019.

IMA Data Science Advisory Board, 2017–2018.

SIAM Council representative to SIAM Board, Jan. 2017–Dec. 2018.

Meetings Organized

Random Matrix Workshop, Foundations of Computational Mathematics, Vienna, July 2026.

Workshop Committee, Foundations of Computational Mathematics, Vienna, July 2026.

Organizing committee, Workshop on Randomized Numerical Linear Algebra, Bernoulli Center, EPFL, Spring 2022. (Canceled due to COVID.)

Organizing committee, Workshop on Complexity of Matrix Computations, Online, Summer 2021–Winter 2022.

Co-Chair, inaugural **SIAM Conference on Mathematics of Data Science** (MDS), Online, May–June 2020. (Pre-COVID projected participation: 1,500 researchers.)

Concentration of measure and its applications, Institut de Études Scientifique, Cargèse, May 2018.

Random Matrix Workshop, Foundations of Computational Mathematics, Barcelona, July 2017.

Information Theory and Concentration Phenomena, Institute for Mathematics and its Applications (IMA), University of Minnesota at Twin Cities, Minneapolis, Apr. 2015.

SIAM Minisymposium on Matrix Concentration Inequalities, Joint Mathematical Meetings (JMM), San Antonio, Jan. 2015.

Special session, "Advances in compressive sensing," 10th Intl. Conf. Sampling Theory and Applications (SampTA 2013), Bremen, July 2013.

Systems, Information, Learning, and Optimization (SILO) Workshop, Madison, June 2013.

Sparse and Low-Rank Approximation Workshop, Banff International Research Station, Mar. 2011.

2006 Sparse Approximation Workshop, Princeton, Nov. 2006.

Technical Program Committees

2010 IEEE International Symposium on Information Theory (ISIT), 2010.

2007 IEEE Statistical Signal Processing Workshop, Madison, Aug. 2007.

Current Editorial Board Memberships

Communications of the American Mathematical Society (CAMS), Associate Editor, 2021–Present.

Constructive Approximation (CA), Mar. 2011–Present.

Former Editorial Board Memberships

SIAM Journal on Mathematics of Data Science (SIMODS), **Co-Founder**. Section Editor, Jan. 2018–Dec. 2023.

SIAM Journal on Matrix Analysis and Applications (SIMAX), Jan. 2013–Dec. 2018.

Journal of Fourier Analysis and Applications (JFAA), Jan. 2013–Dec. 2017.

Applied and Computational Harmonic Analysis (ACHA), Sep. 2012–Dec. 2017.

Reviewer for the Following Journals

Advances in Adaptive Data Analysis, Advances in Mathematics, Alea, Annals of the Henri Poincaré Institute (AIHP), Annals of Statistics, Applied and Computational Harmonic Analysis, Communications of the Association for Computing Machinery, Communications in Pure and Applied Mathematics, Constructive Approximation, EURASIP Journal of Signal Processing, Electronic Journal of Probability, Electronic Communications in Probability, Forum of Mathematics Pi, Foundations and Trends in Machine Learning, Foundations of Computational Mathematics, Geometric and Functional Analysis, IEEE Journal of Selected Topics in Signal Processing, IEEE Signal Processing Letters, IEEE Transactions on Information Theory, IEEE Transactions on Signal Processing, Journal of the Association for Computing Machinery, Journal of the American Mathematics Society, Journal of Approximation Theory, Journal of Fourier Analysis and Applications, Journal of Functional Analysis, Journal of Machine Learning Research, Journal of Statistical Physics, Mathematical Programming, Numerische Mathematik, Probability Theory and Related Fields, Proceedings of the IEEE, SIAM Journal on Applied Dynamical Systems, SIAM Journal on Imaging Sciences, SIAM Journal on Matrix Analysis and Applications, SIAM Review, Statistical Science, Statistics & Probability Letters

Reviewer for the Following Conferences

2019 ACM Conference on Learning Theory (COLT), 2014 IEEE International Symposium on Information Theory (ISIT), 2012 International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX), 2011 ACM–SIAM Symposium on Discrete Algorithms (SODA), 2010 IEEE International Symposium on Information Theory (ISIT), 2009 Neural Information Processing Systems (NIPS), 2008 ACM Symposium on Theory of Computing (STOC), 2007 IEEE Symposium on Foundations of Computer Science (FOCS), 2005 IEEE International Conference on Communications (ICC), 2004 IEEE Global Communications Conference (GLOBECOM), 2004 IEEE International Symposium on Information Theory (ISIT)

Reviewer for the Following Granting Agencies

Air Force Office of Scientific Research (AFOSR), Engineering and Physical Sciences Research Council (EPSRC), Gordon & Betty Moore Foundation (GBMF), International Centre for Mathematical Sciences (ICMS), National Science Foundation (NSF)

Professional Societies

AMS, Member

IEEE, Fellow

IMS, Fellow

SIAM, Fellow

RESEARCH GRANTS

Grantor: **Caltech**, S2I Early-Stage Research Projects
Project Title: "Scalable, lightweight kernel methods for distillation of streaming data"
Principal Investigator: Joel A. Tropp
Dates: June 2024–December 2025

Grantor: **ONR/C4ISR**, BAA N00014-24-S-B0001
Project Title: "Pushing the limits of large-scale kernel computations"
Award Number: N00014-24-1-2223
Principal Investigator: Joel A. Tropp
Dates: January 2024–December 2027

Grantor: **Caltech**, Carver Mead New Adventures Fund
Project Title: "Pushing the limits of large-scale kernel computations"
Principal Investigator: Joel A. Tropp
Dates: April 2023–March 2025

Grantor: **NSF/DMS**, Focused Research Group (FRG) program
Project Title: "Randomized algorithms for solving linear systems"
Award Number: 1952777
Principal Investigators: Per-Gunnar Martinsson (UT-Austin), Vladimir Rokhlin (Yale), Joel A. Tropp, Rachel Ward (UT-Austin)
Dates: August 2020–July 2024

Grantor: **ONR/C4ISR**, BAA N00014-17-S-BA13, ONR Basic Research Challenge on "Randomized numerical linear algebra for large-scale, efficient matrix computations"
Project Title: "Toward scalable universal solvers for linear systems"
Award Number: N00014-18-1-2363
Principal Investigators: Joel A. Tropp, Houman Owhadi, and Peter Schröder
Dates: July 2018–November 2023

Grantor: **ONR/C4ISR**, BAA N00014-16-R-BA01, "Long-range BAA"
Project Title: "Efficient algorithms for low-rank matrix optimization with applications to matrix factorization"
Award Number: N00014-17-1-214
Principal Investigator: Joel A. Tropp
Dates: Jan. 2017–Dec. 2019

Grantor: **AFOSR**, BRI Program "Foundations of energy transfer in multi-physics flow phenomena"
Project Title: "Wall turbulence with designer properties"
Award Number: FA9550-12-1-0469
Principal Investigators: Beverley McKeon and Joel A. Tropp, David Goldstein, Mark Sheplak
Dates: Sep. 2012–Nov. 2015

Grantor: **ONR/C4ISR**, 2008 PECASE Award
Project Title: "Linear inverse problems with matrix data"
Award Number: N00014-11-1-0025
Principal Investigator: J. A. Tropp
Dates: Nov. 2010–Sep. 2015

Grantor: **Alfred P. Sloan Foundation**
Dates: Sep. 2010–Sep. 2012

Grantor: **AFOSR**, MURI Topic 2009-17, "Information dynamics in networks"
Project Title: "Information dynamics as a foundation for network management"
Award Number: FA9550-09-1-0643
Subcontracted by Princeton Univ., Principal Investigator: R. A. Calderbank
Subcontract Principal Investigator: J. A. Tropp
Dates: June 2009– May 2014

Grantor: **ONR/C4ISR**, 2008 Young Investigator Program (YIP)
Project Title: "Compressive Signal Processing: Theory and Applications"
Award Number: N00014-08-1-0883
Principal Investigator: J. A. Tropp
Dates: June 2008–May 2011

Grantor: **DARPA/MTO**, BAA 08-03, "Analog-to-Information Receiver Development Program"
Project Title: "Information-scalable analog-to-information receivers"

Award Number: N66001-08-1-2065
Subcontracted by Rice Univ., Principal Investigator: R. G. Baraniuk
Subcontract Principal Investigator: J. A. Tropp
Dates: June 2008–May 2011

Grantor: **DARPA/MTO**, BAA 05-35, "Analog-to-Information Receiver Development Program"
Project Title: "Theory and practice of analog-to-information conversion"
Award Number: N66001-06-1-2011
Subcontracted by Rice Univ., Principal Investigator: R. G. Baraniuk
Subcontract Principal Investigators: A. C. Gilbert, M. J. Strauss, and J. A. Tropp
Dates: Jan.–Dec. 2006

PATENTS

"Ptychography imaging systems and methods with convex relaxation." Inventors: R. Horstmeyer, R. Y. Chen, J. A. Tropp, and C. Yang. US Patent 20,150,331,228. Granted 2015.

"Method and apparatus for on-line compressed sensing." Inventors: R. G. Baraniuk, D. Baron, M. A. Davenport, M. F. Duarte, M. Elnozahi, S. Kirolos, J. N. Laska, Y. Massoud, T. Ragheb, J. A. Tropp, and M. B. Wakin. US Patent 8,687,689. Granted 2014.

CONSULTING

Employer: **United Technologies Research Center**
Project: "Randomized and Distributed Matrix Factorization for Missing Data Inference" (for ONR Computational Methods for Decision Making program)
Dates: Apr. 2017–Aug. 2018

Employer: **United Technologies Research Center**
Project: "Quantifying Dynamic Complexity" (for DARPA META-II program)
Dates: June 2011–Sep. 2011

Employer: **SA Photonics**
Project: "Analog-to-Information Sensing for Software-Defined Receivers" (for Navy SBIR topic N92-106)
Dates: Sep. 2009–Mar. 2010

PERSONAL INFORMATION

Date of Birth: 18 July 1977

Citizenship: USA

Languages: Can read French and Spanish