

**THE UNIVERSITY OF BRITISH COLUMBIA**

*Curriculum Vitae for Faculty Members*

**Date:** July 30, 2021      **Initials:** YP

1. **SURNAME:** Plan      **FIRST NAME :** Yaniv  
**MIDDLE NAME(S):** none
2. **DEPARTMENT/SCHOOL:** Mathematics
3. **FACULTY:** Science
4. **PRESENT RANK:** Associate Professor      **SINCE:** July 1, 2014

5. **POST-SECONDARY EDUCATION**

(a) *Degrees:*

University or Institution	Degree	Subject Area	Dates
California Institute of Technology	Ph.D.	Applied and Computational Mathematics	2005–2011
University of California, Berkeley	B.A.	Applied Mathematics (Hons) and Physics	2000–2004

(b) *Title of Dissertation and Name of Supervisor:*

*Compressed sensing, sparse approximation, and low-rank matrix estimation.*

Ph.D. thesis, California Institute of Technology,

Supervisor: Prof. Emmanuel Candes

6. **EMPLOYMENT RECORD**

(a) *Prior to coming to UBC:*

University, Company or Organization	Rank or Title	Dates
University of California, Berkeley, Student Learning Centre	Tutor	2002
University of California, Berkeley	Research Assistant	2001–2002, 2004–2005
Stanford University	Visiting Scholar	2009–2011
University of Michigan	NSF Postdoctoral Fellow and Hildebrandt Assistant Professor in Mathematics	2011–2014

(b) *At UBC:*

Rank or Title	Dates
Assistant Professor	2014–2021
Associate Professor	2021–

## 7. LEAVES OF ABSENCE

University, Company or Organization at which leave was taken	Type of leave	Dates
University of British Columbia	Parental leave	January 2015–March 2015

## 8. TEACHING

(a) *Areas of special interest and accomplishments:* I carefully emphasize foundational concepts by examining them in several contexts, but finish my lectures at a fast pace. The benefit is twofold: first, we cover more material; second, this exercises student minds. For those who find this pace challenging, I ensure that the material can be reconstructed from my lecture notes (posted online) and books. I provide extra problems for interested students, extra-credit challenges for those most advanced, and extra practice for weaker students. One of my students aptly summarized my teaching with “He never failed to challenge us, though he was considerate to students who learned at a slower pace.” I have had great success with specialized courses, Probability in High Dimensions and Compressed Sensing that are in high demand for modern data analysis. I am working to extend this success to lower level 1st year courses.

(b) *Courses taught at UBC:*

Session	Course number	Scheduled hours	Class size	Hours taught			
				Lectures	Tutorials	Labs	Other
2014/15 W1	Math 307	3 hrs/wk	94	3 hrs/wk			
2015/16 W1	Math 608D	3 hrs/wk	17	3 hrs/wk			
2015/16 W2	Math 307	3 hrs/wk	73	3 hrs/wk			IIC*
2016/17 W1	Math 555	3 hrs/wk	6	3 hrs/wk			
2016/17 W2	Math 223	3 hrs/wk	22	3 hrs/wk			
2017/18 W1	Math 184	3 hrs/wk	186	3 hrs/wk			
2017/18 W2	Math 303	3 hrs/wk	109	3 hrs/wk			IIC*
2017/18 W2	Math 608D	3 hrs/wk	6	3 hrs/wk			
2018/19 W1	Math 100	3 hrs/wk	152	3 hrs/wk			
2018/19 W2	Math 608D	3 hrs/wk	4	3 hrs/wk			
2018/19 W2	Math 307	3 hrs/wk	127	3 hrs/wk			
2019/2020 S1	Math 302	7 hrs/wk	81	7 hrs/wk			
2019/2020 W1	Math 100	3 hrs/wk	97	3 hrs/wk			
2019/2020 W1	Math 223	3 hrs/wk	51	3 hrs/wk			**
2019/2020 W2	Math 307	3 hrs/wk	204	0 hrs/wk			IIC***
2020/2021 S1	Math 302	7 hrs/wk	106	7 hrs/wk			****
2020/2021 W1	Math 302	3 hrs/wk	133	3 hrs/wk			IIC
2020/2021 W1	Math 223	3 hrs/wk	57	3 hrs/wk			

\* Note, IIC = Instructor in charge. Note, Received recognition from the Dean for “some of the highest student evaluations in the Faculty of Science in 2019 Winter Term 1 for Math 223”. \*\*\* Note, IIC but not lecturer. \*\*\*\* Developed a set of slides covering all of the Math 302 material. These slides have subsequently been used by other faculty.

(c) Graduate/undergraduate students supervised and/or co-supervised:

Student name	Program type	Dates	Principal supervisor	Co-supervisor(s)
Sophie Jane	Undergrad	2021		YP, Ozgur Yilmaz
Quang Vuong	Undergrad	2021		YP, Ozgur Yilmaz
Matthew Scott	MSc	2021 –	YP	YP, Ozgur Yilmaz
Sharvaj Kubal	MSc	2021 –	Geoff Schiebinger	YP, Geof Schiebinger
Xia Sheng	MSc	2021 –	Ozgur Yilmaz	YP, Ozgur Yilmaz
Danil Platonov	MSc	2021 –	YP	YP, Ozgur Yilmaz
Danil Platonov	Undergrad	2019	YP	
Conor Morrison	Undergrad	2019	YP	Cindy Greenwood
Alireza Naderi	MSc	2019 –	YP	
Xiaowei Li	PhD	2018 –		YP, Ozgur Yilmaz
Navid Ghadermarzy	PhD	2016–2018		YP, Ozgur Yilmaz
Aaron Berk	PhD	2015–21	YP	Ozgur Yilmaz
Thomas Reimer	Undergrad	2015	YP	Roger Donaldson
Arijit Gupta	Undergrad	2014		YP, Roger Donaldson
Hao-Jun Shi	Undergrad, UCLA	2015		YP, Deanna Needell
Minday Case	Undergrad, UCLA	2015		YP, Deanna Needell
Shenyngying Tu	Undergrad, UCLA	2015		YP, Deanna Needell
Xiaoyi Gu	Undergrad, UCLA	2015		YP, Deanna Needell
Chenrui Gao	Undergrad U. Michigan	2013	YP	Mary Wootters
Albert Ai	Undergrad U. Michigan	2012		YP, Roman Vershynin
Alex Lapanowski	Undergrad U. Michigan	2012		YP, Roman Vershynin

Sophie Jane, Quang Vuong: Supervising summer 2021 project through Undergraduate Student Research Award (USRA) program.

Danil Platonov: Supervised summer project through USRA program. Conor Morrison: USRA, primary role was to help funding.

Aaron Berk: Received Four Year Doctoral Fellowship (4YF); won support from the NSERC Alexander Graham Bell Canada Graduate Scholarships-Doctoral Program (NSERC CGS D); won the Master of Data Science TA award; won the Margaret L. Adamson award; won the Best Student Research Talk at UBC Ophthalmology Research Day.

(d) *Student committees and thesis reading:*

Student name	Degree	Role	Department	Date
Kateryna Melnykova	PhD	Thesis defense committee member	Mathematics	January 2021
Zhenan Fan	PhD	Candidacy exam committee member	Comp. Science	November 2020
Danil Platonov	BSc	Undergraduate thesis reader	Physics	March 2019
Navid Ghadermazay	PhD	Thesis defense committee member	Mathematics	August 2018
Aaron Berk	PhD	Candidacy exam committee member	Mathematics	February 2018
Kateryna Melnykova	PhD	Candidacy exam committee member	Mathematics	December 2015
Oscar Lopez	PhD	Candidacy exam committee member	Mathematics	December 2015
Ives Macedo	PhD	Thesis defense committee member	Mathematics	December 2015
Armand Ahmadieh	PhD	Candidacy exam committee member	Mathematics	December 2014

(e) *Employees supervised:*

Employee	Type	Dates	Co-supervisor(s)
Babhru Joshi	PDF	2019–	Ozgur Yilmaz, Michael Friedlander
Arman Arian	Honorary RA	2019–2020	
Halyun Jeong	PDF	2017–	Ozgur Yilmaz, Michael Friedlander
Simone Brugiapaglia	PDF	2017–9	Ben Adcock, Paul Tupper

RA – research assistant, PDF – postdoctoral fellow.

Halyun Jeong: Received Pacific Institute for the Mathematical Sciences Postdoctoral Fellowship. He also received funding from the UBC Data Science Institute.

Simone Brugiapaglia: Received Pacific Institute for the Mathematical Sciences Stochastics Postdoctoral Fellowship.

## 9. SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) *Areas of special interest and accomplishments:* When you take a picture—digitizing an image with several megapixels—how much essential information is contained in those millions of pixels? The answer is: often, far less than it would seem from the pixel count. Images follow certain regular patterns. In other words, they contain structure. This answer also begs another question: Can the essence of an image be captured with even fewer measurements?

The field of compressed sensing, the focus of my research, addresses this question in a broader context. I use probabilistic tools to determine how many measurements are needed to accurately capture a structured signal. More recently, I have been addressing the theoretical and practical aspects of deep learning for this purpose. Magnetic resonance imaging (MRI) is one example of a process that benefits from this work, since reducing the number of measurements can shorten the procedure.

(b) *Research or equivalent grants (indicate under COMP whether grants were obtained competitively (C) or non-competitively (NC)):*

Granting agency	Subject	COMP	\$ per year	Dates	PI	Co-PI(s)
UBC Fac. Science / STAIR	(11)	C	\$25,000	2020	YP	Ipek Oruc
Canada Research Chair (CRC) Program	(10)	C	\$100,000	2020–24	YP	–
NSERC	(9)	C	\$40,000	2020–23	YP	–
NSERC	(8)	C	\$27,000	2020–25	YP	–
CRC Program	(7)	C	\$20,000	2019	YP	–
PIMS	(6)	C	\$66,000	2018–21	YP	(5)
NSERC	(4)	C	\$19,000	2015–19	YP	–
CRC Program*	(3)	C	\$100,000	2014–19	YP	–
American Inst. Math	(2)	C	\$1,000	2013–5	–	(1)

(11): A deep learning approach to analyzing retinal imaging for medical diagnosis

(10): Renewal of (3)

(9): NSERC Discovery Accelerator Supplement for (8), for “researchers who have an established, superior research program that is highly rated in terms of originality and innovation, and who show strong potential to become international leaders within their field.”

(8): Low-dimensional structures in high-dimensional data

(7): Research stipend for (4)

(6): CRG on Low-dimensional structure in high-dimensional data analysis

(5): Ben Adcock (SFU), Alexandr Aravkin (U. Washington), Roger Donaldson (UBC), Michael Friedlander (UBC), Ozgur Yilmaz (UBC)

(4): Extracting low-dimensional signals from high-dimensional data

(3): Tier 2 CRC in Data Science

(2): Structured Quartet Research Ensemble

(1): YP, Deanna Needell, Richard Baraniuk, Simon Foucart, Mary Wootters

(c) *Invited presentations* (Since 2009):

Note: For conciseness, similar presentations are grouped together under the same title.

- “A family of measurement matrices for generalized compressed sensing.” Presented at:
  - Mini-symposium on Low-Rank Models and Applications, Fields Institute for Research in Mathematical Sciences, (virtual), Jun. 2021.
  - One World Mathematics of Information, Data, and Signals (1W-MINDS) Seminar, (large virtual event, roughly 1300 subscribers), Jul. 2021.
- “The role of randomness in compressive sensing and matrix completion.” Title of three award lectures:
  - **Aisenstadt prize lecture** in *Aisenstadt Chair lecture series*, Centre Res. Math, Montreal, QC, Nov. 2019.

- **Plenary talk** at *National Winter Meeting of the Canadian Mathematical Society (CMS)*, Vancouver, BC, Dec. 2018.
- **PIMS-UBC Faculty Award Distinguished Colloquium**, UBC, Vancouver, BC, Nov. 2017.
- “Debiasing 1-step matrix completion.” Presented at:
  - *International Matheon Conference on Compressed Sensing and its Applications*, Berlin, Germany, Dec. 2017.
  - *Annual Data Institute Conference*, San Francisco, CA, Oct. 2017.
  - *The International Society for Optical Engineering (SPIE) Optics and Photonics*, San Diego, CA, Aug. 2017.
- “A simple tool for bounding the deviation of random matrices on geometric sets.” Presented at *Casa Matematica Oaxaca-Banff International Research Station: Applied Harmonic Analysis, Massive Data Sets, Machine Learning, and Signal Processing*, Oaxaca, Mexico, Oct. 2016.
- “The generalized Lasso with non-linear observations.” Presented at:
  - *Information Theory and Applications*, San Diego, CA, Feb. 2015.
  - *Fields workshop on Big Data*, Toronto, ON, Feb. 2015.
- “Low-dimensionality in mathematical signal processing.” Presented at:
  - *U. Wisconsin, Madison Math Colloquium*, Madison, WI, 2014.
  - *U.C. Davis Math Colloquium*, Davis, CA, 2014.
  - *U.C. San Diego Math Colloquium*, San Diego, CA, 2014.
  - *U. Minnesota Math Colloquium*, Seattle, MN, 2013.
  - *Georgia Tech Math Colloquium*, Atlanta, GA, 2014.
  - *Michigan State University*, East Lansing, MI, 2013.
- “Introduction to compressed sensing.” Presented at *Michigan State University, 2 special lectures in Probability and Statistics*, East Lansing, MI, Aug. 2013.
- “Binary matrix completion.” Presented at:
  - *Low Dimensional Structure in High Dimensional Systems Workshop*, Durham, NC, Sep. 2013.
  - *Joint Statistical Meetings*, Montreal, QC, Aug. 2013.
  - *10th International Conference on Sampling Theory and Application*, Bremen, Germany, July 2013.
  - *Google*, Mountain View, CA, Nov. 2012.
  - *U.C. Davis Applied Mathematics Seminar*, Davis, CA, Nov. 2012.
  - *U.C. Berkeley Neyman Statistics Seminar*, Berkeley, CA, Nov. 2012.
  - *Vanderbilt Computational Analysis Seminar*, Nashville, TN, Oct. 2012.
- “Structured Signal Recovery From Single-bit Measurements.” Presented at:
  - *Asilomar Conference on Signals, Systems, and Computers*, Monterey, CA, Nov. 2012.
  - *Probabilistic Techniques and Algorithms Workshop*, Austin, TX, Apr. 2012.
- “1-bit compressed sensing and sparse binomial regression.” Presented at:

- *14th International Conference on Approximation Theory*, San Antonio, TX, Apr. 2013.
- *U. Michigan Analysis/Probability Seminar*, Ann Arbor, MI, Feb. 2012.
- “A probabilistic and RIPless theory of compressed sensing.” Presented at *MIT Imaging and Computing Seminar*, Boston, MA, Dec. 2010.
- “Tight oracle bounds for low-rank matrix recovery from a minimal number of random measurements.” Presented at *BIRS conference on Sparse Random Structures: Analysis and Computation*, Banff, AB, Jan. 2010.
- “Accurate low-rank matrix recovery from a small number of measurements.” Presented at the *47th Annual Allerton Conference*, Urbana, IL, Oct. 2009.

(d) *Contributed presentations (since 2009):*

- *UBC Probability Seminar*, Mar. 2017.
- *UBC Statistics Seminar*, Vancouver, BC. Feb. 2015.
- *U. Michigan Statistics Student Seminar*, Ann Arbor, MI, Sep. 2012.
- *U. Michigan Analysis/Probability Seminar*, Ann Arbor, MI, Mar. 2012.
- *U. Michigan Analysis/Probability Seminar*, Ann Arbor, MI, Oct. 2012.
- *U. Michigan New Postdoc Orientation Seminar*, Ann Arbor, MI, Aug. 2011.

(e) *Conference organization:*

- Leading organizer for 5-day Workshop and Summer School in Mathematical Foundations of Data Science, 2018.
- Co-organizer for PIMS CRG retreat for Low-dimensional Structure in High-dimensional Data Analysis, 2018.
- Co-organizer for Special Session at the 2018 CMS meeting: Sparse Recovery, Learning, and Neural Networks.

## 10. SERVICE TO THE UNIVERSITY

(a) *Memberships on committees, including offices held and dates*

- Member of Graduate Affairs Committee (GAC) 2020–. Responsible for ranking scholarship candidates.
- Member of the Department Committee on Appointments (dca) for several hiring cycles. Responsible for short-listing of job candidates based on consultations with the wider department, hosting and interviewing candidates, and presenting the case for leading candidates. Member of the dca for the following research areas:
  1. Math of Information 2018–9;
  2. Applied Math 2017–8;
  3. Probability 2016-7;
  4. Scientific Computing and Fluids 2015-6.
- Member of Undergraduate Affairs Committee 2015–.
- Chair of the Qualifying Exam Committee, 2017.
- Member of the Qualifying Exam Committee, 2016.
- Member of Merit Review Committee, 2015.

(b) *Other service, including dates*

- Co-founder and co-organizer of Mathematics of Information seminars, UBC 2014–.
- Organizer of Analysis/Probability seminars at University of Michigan, 2011-4.

11. **SERVICE TO THE COMMUNITY**

(a) *Memberships on scholarly societies, including offices held and dates*

- Member of Statistical Society of Canada (2017–8).

(b) *Reviewer (journal, agency, etc. including dates):*

- SIAM journal on mathematics of data science (2019) • Applied and Computational Harmonic Analysis (2012, 2013, 2014) • Annals of Statistics (2010, 2010, 2013, 2014) • Bernoulli Journal (2012, 2018) • Discrete and Computational Geometry (2014) • Electronic Journal of Statistics (2015, 2016) • Foundations of Computational Mathematics (2014, 2014) • Geometric and Functional Analysis (2016) • IEEE, Transactions on Information Theory (2011, 2011, 2012, 2013, 2015, 2015, 2016, 2020) • IEEE, Transactions on Signal Processing (2011) • Information and Inference (2018, 2020) • Journal of the American Statistical Association (2012) • Journal of Fourier Analysis and Applications (2015) • Journal of Machine Learning Research (2013) • Linear Algebra and its Applications (2014) • Probability Theory and Related Fields (2013) • SIAM Journal of Optimization (2017) • Statistics and Probability Letters (2013) • Also reviewer for the conferences/workshops: IEEE International Symposium on Information Theory (ISIT) (2020), Symposium on Theory of computing (STOC) (2014), Sampling Theory and Applications (SAMPTA) (2013, 2013), Computational Learning Theory (COLT) (2016, 2019), and Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP) (2015).

(c) *Other service to the community*

- Volunteer for Math Mania at UBC — November 2014.

12. **AWARDS AND DISTINCTIONS**

(a) *Awards for Scholarship*

- Andre-Aisenstadt prize, which “recognizes outstanding research achievement by a young Canadian mathematician in pure or applied mathematics.” 2019.
- Best paper award: Conference on Neural Information Processing Systems (NeurIPS) best paper award, 2018.
- UBC Math and PIMS Faculty Award, which “recognize UBC researchers for their leading edge work in mathematics or its applications in the sciences.” 2016.
- Tier 2 Canada Research Chair in Data Science, 2014; renewed in 2019.
- NSF Postdoctoral Research Fellowship, 2011.
- Hildebrandt Assistant Professorship in Mathematics, 2011.



**THE UNIVERSITY OF BRITISH COLUMBIA**

*Publications Record*

**Date:** July 30, 2021

**Initials:** YP

**Surname:** Plan

**First Name:** Yaniv

**Middle Name(s):** none

Notes:

- My best five papers are indicated with “\*”.
- Student authors are underlined.
- In mathematics authors are typically listed alphabetically.
- Coauthors have, on average, made equal contributions to the work.

1. **REFEREED PUBLICATIONS**

(a) Journals

1. \* X. Li, H. Jeong, Y. Plan, O. Yilmaz, *Sub-Gaussian matrices on sets: Optimal tail dependence and applications*, submitted to Communications on Pure and Applied Mathematics (CPAM), accepted, 2021, 38 pages.
2. S. Foucart, D. Needell, R. Pathak, Y. Plan, M. Wotter, *Weighted matrix completion from non-random, non-uniform sampling patterns*, IEEE Transactions on Information Theory, accepted, 2020, 41 pages.
3. A. Berk, Y. Plan, O. Yilmaz, *Sensitivity of  $\ell_1$  minimization to parameter choice*, Information and Inference, accepted, 2020, 52 pages.
4. \*H. Ashtiani, S. Ben-David, N. Harvey, C. Liaw, A. Mehrabian, Y. Plan, *Near-optimal Sample Complexity Bounds for Robust Learning of Gaussian Mixtures via Compression Schemes*, Journal of the ACM, vol. 67, no.6.
5. \* N. Ghadermarzy, Y. Plan, O. Yilmaz, *Near-optimal sample complexity for convex tensor completion*, Information and Inference, vol. 8, no. 3, pp. 577-619, 2019.
6. N. Ghadermarzy, Y. Plan, O. Yilmaz, *Learning tensors from partial binary measurements*, IEEE Transactions on Signal Processing, vol. 67, no. 1, pp. 29-40, 2018.
7. X. Gu, S. Tu, H. Shi, M. Case, D. Needell, Y. Plan, *Optimizing quantization for lasso recovery*, IEEE Signal Processing Letters, vol. 25, no. 1, pp. 45-49, 2018.
8. R. Baraniuk, S. Foucart, D. Needell, Y. Plan, M. Wotter, *One-bit compressive sensing of dictionary-sparse signals*, Information and Inference, vol. 7, no. 1, pp. 83-104, 2017.
9. \* C. Liaw, A. Mehrabian, Y. Plan, R. Vershynin, *A simple tool for bounding the deviation of random matrices on geometric sets*, Geometric Aspects of Functional Analysis, Lecture Notes in Mathematics, pp. 277-299, 2017.
10. R. Baraniuk, S. Foucart, D. Needell, Y. Plan, M. Wotter, *Exponential decay of reconstruction error from binary measurements of sparse signals*, IEEE Transactions on Information Theory, vol. 63, no. 6, pp. 3368-3385, 2017.

11. Y. Plan, R. Vershynin, E. Yudovina, *High-dimensional estimation with geometric constraints*, Information and Inference, vol. 6, no. 1, pp. 1-40, 2017.
  12. Y. Plan, R. Vershynin, *The generalized lasso with non-linear observations*, IEEE, Transactions on Information Theory, vol. 62, no. 3, pp. 1528-1537, 2016.
  13. R. Giryes, Y. Plan, R. Vershynin, *On the effective measure of dimension in the analysis cospase model*, IEEE, Transactions on Information Theory, vol. 61, no. 10, pp. 5745-5753, 2015.
  14. M. Davenport, E. van den Berg, Y. Plan, M. Wootters, *1-bit matrix completion*, Information and Inference, vol. 3, no. 3, pp. 189-223, 2014.
  15. Y. Plan, R. Vershynin, *Dimension reduction by random hyperplane tessellations*, Discrete and Computational Geometry, vol. 51, no. 2, pp. 4438-461, 2014.
  16. A. Ai, A. Lapanowski, Y. Plan, R. Vershynin, *One-bit compressed sensing with non-Gaussian measurements*, Linear Algebra and its Applications, vol. 441, pp. 222-239, 2014.
  17. Y. Plan, R. Vershynin, *Robust 1-bit compressed sensing and sparse logistic regression: A convex programming approach*, IEEE Transactions on Information Theory, vol. 59, no. 1, pp. 482-494, 2013.
  18. Y. Plan, R. Vershynin, *One-bit compressed sensing by linear programming*, Communications on Pure and Applied Mathematics, vol. 66, no. 8, pp. 1275-1297, 2013.
  19. Y. Eldar, D. Needell, Y. Plan, *Uniqueness conditions for low-rank matrix recovery*, Applied and Computational Harmonic Analysis, vol. 33, no. 2, pp. 309-314, 2012.
  20. E. J. Candès, Y. Plan, *A probabilistic and RIPless theory of compressed sensing*, IEEE Transaction on Information Theory, vol. 57, no. 11, pp. 7235-7254, 2011.
  21. E. Arias-Castro, E.J. Candès and Y. Plan, *Global testing under sparse alternatives: ANOVA, multiple comparisons and the Higher Criticism*, Annals of Statistics, vol. 39, no. 5, pp. 2533-2566, 2011.
  22. E. J. Candès, Y. Plan, *Tight oracle inequalities for low-rank matrix recovery from a minimal number of random measurements*, IEEE Transaction on Information Theory, vol. 57, no. 4, pp. 2342-2359, 2011.
  23. E. J. Candès, Y. Plan, *Matrix completion with noise*, Proceedings of the IEEE, vol. 9, no. 6, pp. 925-936, 2010.
  24. E. J. Candès, Y. Plan, *Near-ideal model selection by  $\ell_1$  minimization*, Annals of Statistics, vol. 37, pp. 2145-2177, 2009.
  25. Y. Plan, L. Hlatky, P. Hahnfeldt, R. Sachs, B. Loucas, M. Cornforth, *Full-color painting reveals an excess of radiation-induced dicentric involving homologous chromosomes*, International journal of radiation biology, vol. 81, no. 8, pp. 613-620, 2005.
- (b) Conference Proceedings (Refereed)
1. N. Harvey, C. Liaw, Y. Plan, S. Randhawa, *Tight analyses for non-smooth stochastic gradient descent*, Computational Learning Theory (COLT) 2019, 35 pages.
  2. X. Li, H. Jeong, Y. Plan, O. Yilmaz, *Non-Gaussian matrices on sets: optimal tail dependence and applications*, Sampling Theory and Applications (SAMPTA) 2019, 4 pages.
  3. A. Berk, Y. Plan, O. Yilmaz *Parameter instability regimes for sparse proximal denoising programs*, Sampling Theory and Applications (SAMPTA) 2019, 4 pages.

4. H. Ashtiani, S. Ben-David, N. Harvey, C. Liaw, A. Mehrabian, Y. Plan, *Nearly tight sample complexity bounds for learning mixtures of Gaussians via sample compression schemes*, Proceedings of the thirty-second annual conference on Neural Information Processing Systems (NIPS) 2018, 10 pages. **2018 NIPS best paper award.**
5. S. Foucart, D. Needell, Y. Plan, and M. Wotterers, *De-biasing low-rank projection for matrix completion*, Proceedings of Wavelets and Sparsity XVII, vol. 10394, 2017, 13 pages.
6. R. Giryes, Y. Plan, R. Vershynin, *On the effective measure of dimension in total variation minimization*, Proceedings of the International Conference on Sampling Theory and Applications (SampTA), pp. 593-597, 2015, 9 pages.
7. Q. Berthet, Y. Plan, T. Wang, *Average-case Hardness of RIP certification*, Proceedings of the Conference on Learning Theory (COLT), pp. 3819-3827, 2016, 9 pages.
8. Y. Plan, *Structured signal recovery from single-bit measurements*, Proceedings of the 10th International Conference on Sampling Theory and Applications (SAMPTA), pp. 481-484, 2013, 4 pages.
9. M. Davenport, E. van den Berg, Y. Plan and M. Wotterers, *1-bit matrix completion*, Proceedings of Signal Processing with Adaptive Sparse Representations, 2013, 1 page.
10. M. Davenport, E. van den Berg, Y. Plan and M. Wotterers, *Lower bounds for quantized matrix completion*, Proceedings of IEEE International Symposium on Information Theory (ISIT), pp. 296-300, 2013, 5 pages.
11. E. J. Candès, Y. Plan, *Accurate low-rank matrix recovery from a small number of linear measurements*, Proceedings of the 47th annual Allerton conference on Communication, control, and computing, pp. 1223-1230, 2009, 8 pages.

## 2. WORK SUBMITTED

1. M. Friedlander, H. Jeong, Y. Plan, O. Yilmaz, *Optimal decay of recovery error of Normalized Binary Iterative Hard Thresholding*, submitted to IEEE, Transaction on Information Theory, 2020, 45 pages.
2. A. Berk, Y. Plan, O. Yilmaz, *On the Best Choice of Lasso Program Given Data Parameters*, submitted to IEEE, Transactions on Information Theory, 2020, revisions requested, 49 pages.

## 3. WORK IN PROGRESS (including degree of completion)

1. B. Joshi, X. Li, Y. Plan, O. Yilmaz, *Linearized gradient descent for GNN: Convergence guarantees with random weights*, 70% complete (we are aiming to submit this to NeurIPS in May).
2. A. Naderi, Y. Plan, *General compressed sensing tools specialized to GNN-type models*, 60% complete (we are aimin to submit this to NeuRIPS in May).

## 4. NON-REFEREED PUBLICATIONS

- (a) Y. Plan *Compressed sensing and generalizations* in CRM bulletin, 2020, 3 pages.