

HIMANSHU TYAGI

ASSOCIATE Professor, Department of Electrical Communication Engineering
Associate Faculty, Robert Bosch Center of Cyber Physical Systems
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Indian Institute of Science, Bangalore

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RESEARCH AREAS

Information theory; Blockchains; Crowdsourced Wireless Networks; Privacy; 5G systems;
Distributed Statistics and Machine Learning;

EDUCATION

University of Maryland, College Park	2007 - '13
<i>Doctor of Philosophy (Ph.D.) - Electrical and Computer Engineering</i>	
Dissertation Title: Common Randomness Principles of Secrecy	
Advisor: Prof. Prakash Narayan	
Indian Institute of Technology, Delhi	2006 - '07
<i>Master of Technology - Communications and Information Technology</i>	
Thesis Title: Optimal Receivers for MPSK Signaling with Imperfect Channel Estimation	
Advisor: Prof. Ranjan K. Mallik	
Indian Institute of Technology, Delhi	2002 - '06
<i>Bachelor of Technology - Electrical Engineering</i>	

EXPERIENCE

Associate Professor, <i>Indian Institute of Science, Bangalore</i>	2021 - present
Assistant Professor, <i>Indian Institute of Science, Bangalore</i>	2015 - '21
• Current group: 2 PhD, 1 M.Tech. Research	
• Graduated students: 3 PhD, 1 MTech Research, 4 MTech	
• co-Convenor, Center for networked intelligence, a Cisco CSR initiative	
• Research in fundamentals of distributed statistics and machine learning, cryptography, Shannon theory, distributed intelligence systems, 5G	
• Research funded by government agencies and private companies	
Several courses taught in the areas of information theory, statistical learning, and computer science.	
Postdoctoral Researcher, <i>University of California, San Diego</i>	2013 - '14
• Information theoretic lower bounds for communication complexity	
• Sample complexity of estimating entropies	
• Privacy preserving data mining	
• Information theoretic cryptography	
• Constructive schemes for secure communication	

Graduate Research Assistant, *University of Maryland, College Park*

2007 - '13

- Information theoretic security and secure computing
- Formal notions of security
- Common randomness and distributed computing
- Fault-tolerant secret key agreement (collaborative project with HP Labs, Bangalore)
- Secret keys from physical observations using public discussion
- Communication over time varying channels

Guest Researcher, *Alfréd Rényi Institute of Mathematics, Budapest*

2010

- Hosted by Prof. Imre Csiszár
- Data authentication and transmission over state dependent channels
- Performance bounds for communication over asynchronous multiple access channel

Summer Intern, *Alcatel-Lucent Bell Labs, New Jersey*

2009

- Computing functions over a network
- Secure distributed computing using public communication

Undergraduate Researcher, *Indian Institute of Technology, Delhi*

2005 -
'07

- Optimal receivers for MPSK signaling with imperfect channel estimation (M.Tech. project)
- Interior-point algorithms to compute capacities of channels with large input alphabet (summer internship at FTW, Vienna)
- Charge pump design for RFID (summer internship at National Semiconductors, Bangalore)

TEACHING EXPERIENCE

Indian Institute of Science, Bangalore

- Information Theory: 2015, 2016, 2018, 2019, 2020
- Concentration Inequalities: 2016, 2017, 2020
- Information and Communication Complexity: 2016, 2017
- Topics in Information Theory and Statistical Learning: 2018, 2019

Online MOOC

- 2021: NPTEL Course: Concentration Inequalities
- 2020: NPTEL Course: Information Theory

FUNDED PROJECTS

(Listed of funded projects as PI/co-PI)

1. Title: Coding for Reliable and Secure Communication within a Mobile Ad-hoc Network
Funding agency: Defense Research and Development Organization (DRDO), India
Duration: 01/02/2015 to 28/10/2018
Amount: Rs. 25,00,000
2. Title: Interactive Data Exchange: Practical codes and Applications
Funding agency: Department of Science and Technology (DST), India
Duration: 19/03/2017 to 18/03/2020
Amount: Rs. 23,00,000

3. Title: Indigenous 5 G Test Bed (Building an end to end 5G Test Bed)
Funding agency: Department of Telecommunication (DoT), India
Duration: 29/03/2018 to 28/03/2021
Amount: Rs. 12,00,00,000 (our component is roughly one-fourth of the total budget)
4. Title: Communication Network for Drones
Funding agency: Robert Bosch Center for Cyberphysical Systems (RBCCPS)
Duration: 01/04/2019 to 31/03/2020
Amount: Rs. 10,00,000
5. Title: High resolution air quality monitoring and air pollutant data analytics
Funding agency: Indo-US Science and Technology Forum (sponsored by DST and Intel Research)
Duration: 18/12/2017 to 17/12/2019
Amount: Rs. 1,50,00,000
6. Title: Garrett Autonomous Vehicles Project
Funding agency: Garrett Motion Private Limited
Duration: 2020 to 2021
Amount: Rs. 70,00,000
7. Title: Nokia Centre for Excellence in Networked Robot
Funding agency: Nokia
Duration: 2020 to 2021
Amount: Rs. 150,00,000
8. Title: Center for networked intelligence, a Cisco CSR initiative
Funding agency: Cisco
Duration: 2019 to 2022
Amount: Rs. 1,90,00,000 in Year 1; 2,90,00,000 in Year 2
9. Title: COVID-19 Epidemic: Enhanced City-Scale Modelling
Funding agency: Hitachi
Duration: 2020 to 2021
Amount: Rs. 34,00,000
10. Title: Differential Privacy for data anonymization in smart cities
Funding agency: National Security Council
Duration: 2022 to 2023
Amount: Rs. 59,80,000

PUBLICATIONS

Monograph

1. P. Narayan and H. Tyagi, "Multiterminal Secrecy and Public Discussion," Foundations and Trends in Communications and Information Theory, vol. 13, no. 2-3, pp 129-275, 2016.

Book

1. H. Tyagi and S. Watanabe, "Information Theoretic Cryptography," under preparation. Cambridge University Press (expected date of completion May 2022)

Theses

1. Master's Thesis: Optimal Receivers for MPSK Signaling with Imperfect Channel Estimation, Indian Institute of Technology, Delhi, 2007. Supervisor: Prof. Ranjan K. Mallik
2. PhD Dissertation: Common randomness principles of secrecy, University of Maryland, College Park, 2013. Supervisor: Prof. Prakash Narayan

Journal Papers

1. S. Jha, P. Mayekar, and H. Tyagi, "Fundamental limits of over-the-air optimization: Are analog schemes optimal?," To appear, *IEEE Journal on Special Area in Information Theory*.
2. L. Ramesh, C. R. Murthy, and H. Tyagi, "Multiple Support Recovery Using Very Few Measurements," To appear, *IEEE Trans on Signal Proceedings*.
3. K. R. Sahasranand, F. C. Joseph, G. Gurrula, A. Joglekar, and H. Tyagi, "Anomaly Aware Adaptive Sampling for Electrical Signal Compression," *IEEE Trans on Smart Grids*, vol. 13, no. 3, pp. 2185-2196, May 2022.
4. J. Acharya, C. Canonne, Y. Liu, Z. Sun, and H. Tyagi, "Interactive Inference under Information Constraints," *IEEE Trans on Inform Theory*, vol 68, no. 1, pp. 502-516, Jan 2022.
5. L. Ramesh, C. R. Murthy, and H. Tyagi, "Sample-Measurement Tradeoff in Support Recovery under a Subgaussian Prior," *IEEE Transactions on Inform Theory*, vol. 67, no. 12, pp. 8140-8153, Dec 2021.
6. K.R. Sahasranand and H. Tyagi, "Communication Complexity of Distributed High Dimensional Correlation Testing," *IEEE Transactions on Inform Theory*, vol. 67, no. 9, pp. 6082-6095, Sep 2021.
7. P. Mayekar and H. Tyagi, "RATQ: An efficient quantizer for stochastic optimization." *IEEE Trans on Inform Theory*, vol 67, no. 5, pp. 3130-3154, May 2021.
8. A. Joglekar, G. Gurrula, P. Kumar, F. C. Joseph, T. S. Kiran, K. R. Sahasranand, H. Tyagi, "Open-Source Heterogeneous Constrained Edge-Computing Platform for Smart Grid Measurements." *IEEE Trans on Instrumentation and Measurements*, vol. 70, 9003612, May 2021.
9. R. Jinan, P. Parag, and H. Tyagi, "Tracking an Auto-Regressive Process with Limited Communication per Unit Time," *Entropy*, 23(3), Mar 2021.
10. J. Acharya, C. Canonne, C. Freitag, Z. Sun, and H. Tyagi, "Inference under Information Constraints III: Local Privacy Constraints," *IEEE Journal on Selected Areas in Inform Theory (JSAIT)*, vol. 2, no. 1, pp. 253-267, Mar 2021.
11. J. Acharya, C. Canonne, and H. Tyagi, "Inference under local information constraints 1: Lower bounds from chi-square contraction," *IEEE Trans on Inform Theory*, vol. 66, no. 12, pp. 7835-7855, Dec 2020.
12. J. Acharya, C. Canonne, and H. Tyagi, "Inference under local information constraints 2: Communication Constraints and Shared Randomness," *IEEE Trans on Inform Theory*, vol. 66, no. 12, pp. 7856-7877, Dec 2020.
13. A. Gopalan and H. Tyagi, "How Reliable are Test Numbers for Revealing the COVID-19 Ground Truth and Applying Interventions?," *J Indian Inst Sci.* 2020;100(4):863-884.
14. P. Mayekar, P. Parag, and H. Tyagi, "Optimal Source Codes for Timely Updates," *IEEE Trans on Inform Theory*, vol. 66, no. 6, pp. 3714 - 3731, June 2020.
15. H. Tyagi and S. Watanabe, "Strong converse using measure change arguments," *IEEE Transactions on Information Theory*, vol. 66, no. 2, pp. 689-703, February 2020.
16. M. Sudan, S. Watanabe, and H. Tyagi, "Communication for generating correlation: A Unifying Review," *IEEE Transactions on Information Theory*, vol. 66, no. 1, pp. 5-37, January 2020.
17. H. Tyagi, P. Viswanath, and S. Watanabe, "Interactive communication for data exchange," *IEEE Transactions on Information Theory*, vol. 64, no. 1, pp. 26 - 37, January 2018.

18. H. Tyagi, S. Venkatakrishnan, P. Viswanath, and S. Watanabe, "Information Complexity Density and Simulation of Protocols," *IEEE Transactions on Information Theory*, vol. 63, no. 11, pp. 6979-7002, November 2017.
19. H. Tyagi and S. Watanabe, "Universal Multiparty Data Exchange and Secret Key Agreement," *IEEE Transactions on Information Theory*, vol. 63, no. 7, pp. 4057-4074, July 2017.
20. J. Acharya, A. Orlitsky, A. T. Suresh, and H. Tyagi, "Estimating Renyi Entropy of Discrete Distributions," *IEEE Transactions on Information Theory*, vol. 63, no. 1, pp. 38-54, January 2017.
21. M. Hayashi, H. Tyagi, and S. Watanabe, "Secret Key Agreement: General Capacity and Second-Order Asymptotics," *IEEE Transactions on Information Theory*, vol. 62, no. 7, pp. 3796-3810, July 2016.
22. H. Tyagi and A. Vardy, "Universal Hash Family for Information Theoretic Security," *Proceedings of IEEE*, vol. 103, issue 10, pp. 1781-1795, October 2015.
23. H. Tyagi and S. Watanabe, "Converses for Secret Key Agreement and Secure Computing," *IEEE Transactions on Information Theory*, vol. 61, no. 9, pp. 4809-4827, September 2015.
24. H. Tyagi and P. Narayan, "How Many Queries will Resolve Common Randomness?," *IEEE Transactions on Information Theory*, vol. 59, no. 9, pp. 5363-5378, September 2013.
25. H. Tyagi, "Common Information and Secret Key Capacity," *IEEE Transactions on Information Theory*, vol. 59, no. 9, pp. 5627-5640, September 2013.
26. H. Tyagi, "Distributed Function Computation with Confidentiality," *IEEE JSAC, Special Issue on In-Network Computation: Exploring the Fundamental Limits*, pp. 691-701, April 2013.
27. H. Tyagi and P. Narayan, *State Dependent Channels: Strong Converse and Bounds on Reliability Function. Excursions in Harmonic Analysis: Applied and Numerical Harmonic Analysis*, Springer, 2013.
28. H. Tyagi, P. Narayan, and P. Gupta, "When is a Function Securely Computable?," *IEEE Transactions on Information Theory*, vol. 57, no. 10, pp. 6337-6350, Oct. 2011.
29. H. Tyagi and A. Tripathi, "A Simple Criterion on Degree Sequences of Graphs," *Discrete Applied Mathematics*, vol. 156, pp. 3513-3517, 2008.

Conference Proceedings

1. J. Acharya, C. Canonne, Z. Sun, and H. Tyagi, "The Role of Interactivity in Structured Estimation," *COLT 2022*.
2. S. Jha, P. Mayekar, and H. Tyagi, "Wyner-Ziv Compression is Optimal for Distributed Optimization," *ISIT 2022*.
3. A. Joglekar, A. Rawat, A. G. Colaco, A. Prasad, P. Ranjan, R. Doreswamy, R. Chopra, A. Amrutur, B. Govindraj, F. Rahman, H. Tyagi, N. Aruselman, P. Patil, SVR Anand, V. Sevani, "Teledriving an Electric Vehicle over a Private LTE Network," *COMSNET 2022*.
4. J. Acharya, C. Canonne, Y. Liu, Z. Sun, and H. Tyagi, "Interactive Inference under Information Constraints," *ISIT 2021*.
5. L. Ramesh, C. Murthy, and H. Tyagi, "Phase Transitions for Support Recovery from Gaussian Linear Measurements," *ISIT 2021*.
6. L. Ramesh, C. Murthy, and H. Tyagi, "Multiple Support Recovery Using Very Few Measurements Per Sample," *ISIT 2021*.
7. S. Jha, P. Mayekar, and H. Tyagi, "Fundamental Limits of Over-The-Air Optimization," *Globecom, 2021*.
8. J. Acharya, C. Canonne, Y. Han, Z. Sun, and H. Tyagi, "Distributed Estimation with Multiple Samples per User: Sharp Rates and Phase Transition," *NeurIPS, 2021*.
9. J. Acharya, C. Canonne, A. V. Singh, and H. Tyagi, "Optimal Rates for Nonparametric Density Estimation under Communication Constraints," *NeurIPS, 2021*.
10. J. Acharya, C. Canonne, P. Mayekar, and H. Tyagi, "Information-constrained optimization: can adaptive processing of gradients help?," *NeurIPS, 2021*.

11. P. Mayekar, A. T. Suresh, and H. Tyagi, "Wyner-Ziv Estimators: Efficient Distributed Mean Estimation with Side-Information," AISTATS, 2021.
12. S. Acharya; S Sadgun, S. Devanahalli, A. Rawat, V. Kuruvilla, P. Sharma, B. Amrutur, A. Joglekar, R. Krishnapuram, Y. Simmhan, and H. Tyagi, "Network Emulation For Teledriving Application Development," COMSNETS, 2021.
13. G. Dhanaprakaash, B. Jaiswal, S. Acharya, A. Kumar, A. M. Varman, K. Shah, M. S. Gadde, S. Mishra, A. Gopalan, B. Amrutur, H. Tyagi, P. Patil, R. Krishnapuram, S. S. Banerjee, S. Sundaram, "Network Based Multi-Bot Awareness," COMSNETS 2021.
14. P. Mayekar and H. Tyagi, "RATQ: A Universal Fixed-Length Quantizer for Stochastic Optimization," AISTATS, 2020.
15. S. Jha and H. Tyagi, "Universal interactive quantization with side-information," ITW 2020.
16. J. Acharya, C. Canonne, Y. Han, Z. Sun, and H. Tyagi, "Domain Compression and its Application to Randomness-Optimal Distributed Goodness-of-Fit," COLT, 2020.
17. J. Acharya, C. Canonne, and H. Tyagi, "Distributed Signal Detection under Communication Constraints," COLT, 2020.
18. R. Jinan, P. Parag, and H. Tyagi, "Tracking an Auto-Regressive Process with Limited Communication," ISIT, 2020.
19. P. Mayekar and H. Tyagi, "Limits on Gradient Compression for Stochastic Optimization," ISIT, 2020.
20. P. Sharma, D. Awasare, B. Jaiswal, S. Mohan, N. Abhinaya, I. S. Darwhekar, S.V.R. Anand, B. Amrutur, A. Gopalan, P. Parag, and H. Tyagi, "On the latency in vehicular control using video streaming over Wi-Fi," National Conference on Communications (NCC), 2020.
21. S. Acharya, B. Amrutur, Y. Simmhan, A. Gopalan, P. Parag, and H. Tyagi, "CORNET: A co-simulation middleware for robot networks," International Conference on Communication Systems & Networks (COMSNETS), 2020.
22. S.S. Banerjee and H. Tyagi, "Practical Universal Data Exchange using Polar Codes," IEEE Information Theory Workshop (ITW), 2019.
23. L. Ramesh, C. Murthy, and H. Tyagi, "Sample-measurement Tradeoff in Support Recover under a Gaussian Prior," IEEE International Symposium on Information Theory (ISIT), 2019.
24. K. R. Sahasranand, B. Rout, A. Joglekar, G. Gurralla, and H. Tyagi, "Fault-aware Compression for High Sampling Rate Data Acquisition in Smart Grids," ACM e-Energy, 2019.
25. J. Acharya, C. Canonne, and H. Tyagi, "Inference under Local Constraints: Lower Bounds from Chi-Square Contractions." Conference on Learning Theory (COLT) 2019.
26. J. Acharya, C. Canonne, and H. Tyagi, "Communication Constrained Inference and the Role of Shared Randomness." International Conference on Machine Learning (ICML) 2019.
27. J. Acharya, C. Canonne, C. Freitag, and H. Tyagi, "Testing without trust: Optimal Locally Private Distribution Testing." AISTATS 2019.
28. S.S. Banerjee and H. Tyagi, "RT-Polar: An HARQ Scheme with Universally Competitive Rates," IEEE Information Theory Workshop (ITW), 2018.
29. H. Tyagi and S. Watanabe, "Strong Converse using Measure Change Arguments." IEEE International Symposium on Information Theory (ISIT), 2018. (included in the TPC choice session)
30. P. Mayekar, P. Parag, and H. Tyagi, "Optimal Lossless Source Codes for Timely Updates," IEEE International Symposium on Information Theory (ISIT), 2018. (Winner of the Best Student Paper Award)
31. A. Jain and H. Tyagi, "Effective Memory Shrinkage in Estimation," IEEE International Symposium on Information Theory (ISIT), 2018.
32. K.R. Sahasranand and H. Tyagi, "Extra Samples can Reduce the Communication for Independence," IEEE International Symposium on Information Theory (ISIT), 2018.
33. H. Tyagi and S. Watanabe, "Optimality of the Recursive Data Exchange Protocol," IEEE International Symposium on Information Theory (ISIT), 2017.
34. H. Tyagi, "Coding Theorems Using Renyi Information Measures," National Communications Conference (NCC), 2017.
35. H. Tyagi and S. Watanabe, "Universal Multiparty Data Exchange," IEEE International Symposium on Information Theory (ISIT), 2016.

36. H. Tyagi, S. Venkatakrishnan, P. Viswanath, and S. Watanabe, "Information complexity density and Simulation of Protocols," ACM Conference on Innovations in Theoretical Computer Science (ITCS), 2016.
37. H. Tyagi, P. Viswanath and S. Watanabe, "Interactive Communication for Data Exchange," IEEE International Symposium on Information Theory (ISIT), 2015.
38. H. Tyagi and S. Watanabe, "Impossibility Bounds for Secure Computing," IEEE International Symposium on Information Theory (ISIT), 2015.
39. H. Tyagi, P. Narayan and S. Watanabe, "Common Randomness for Secure Computing," IEEE International Symposium on Information Theory (ISIT), 2015.
40. T. Javidi, Y. Kaspi, and H. Tyagi, "Gaussian Estimation under Attack Uncertainty," IEEE Information Theory Workshop, Jerusalem, 2015.
41. J. Acharya, A. Orlitsky, A. T. Suresh, and H. Tyagi, "The Complexity of Estimating Renyi Entropy," ACM Symposium on Discrete Algorithms (SODA), 2015.
42. H. Tyagi and S. Watanabe, "Converse Results for Secrecy Generation over Channels," Asilomar Conference on Signals, Systems, and Computers, 2014.
43. M. Hayashi, H. Tyagi, and S. Watanabe, "Strong Converse for a Degraded Wiretap Channel via Active Hypothesis Testing," Allerton Conference on Communication, Control, and Computing, 2014.
44. H. Tyagi and A. Vardy, "Explicit Capacity-Achieving Coding Scheme for the Gaussian Wiretap Channel," IEEE International Symposium on Information Theory (ISIT), 2014.
45. M. Hayashi, H. Tyagi, and S. Watanabe, "Secret Key Agreement: General Capacity and Second-Order Asymptotics," IEEE International Symposium on Information Theory (ISIT), 2014.
46. H. Tyagi and S. Watanabe, "A Bound for Multiparty Secret Key Agreement and Implications for a Problem of Secure Computing," EUROCRYPT, 2014.
47. M. Hayashi, H. Tyagi and S. Watanabe, "Strong Converse for a Degraded Wiretap Channel via Active Hypothesis Testing," Allerton Conference on Communication, Control, and Computing, 2014.
48. H. Tyagi and A. Vardy, "Explicit Capacity-Achieving Coding Scheme For The Gaussian Wiretap Channel," IEEE International Symposium on Information Theory (ISIT), 2014.
49. M. Hayashi, H. Tyagi and S. Watanabe, "Secret Key Agreement: General Capacity and Second-Order Asymptotics," Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2014.
50. H. Tyagi and S. Watanabe, "Secret Key Capacity for Multiaccess Channel with Public Feedback," Allerton Conference on Communication, Control, and Computing, 2013.
51. H. Tyagi and P. Narayan, "How Many Queries will Resolve Common Randomness?," Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2013.
52. H. Tyagi, N. Kashyap, Y. Sankarasubramaniam, and K. Viswanathan, "Fault-Tolerant Secret Key Generation," IEEE International Symposium on Information Theory (ISIT), 2012.
53. H. Tyagi, "Distributed Computing with Privacy," Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2012.
54. H. Tyagi, "Minimum Communication Required for Optimum Rate Secret Key Generation," Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2011.
55. H. Tyagi, P. Narayan and P. Gupta, "When is a Function Securely Computable?," Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2011.
56. H. Tyagi, P. Narayan and P. Gupta, "Secure Computing," Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2010. (Finalist for the Best Student Paper Award)
57. H. Tyagi and P. Narayan, "The Gelfand-Pinsker Channel: Strong Converse and Upper Bound for the Reliability Function," Proceedings of the IEEE International Symposium on Information Theory, 2009.
58. H. Tyagi, R.K. Mallik, and S. Raina. "Optimal Receiver for MPSK Signaling with Imperfect Channel Estimation," Proceedings of IEEE Wireless Communications and Networking Conference (WCNC), 2007.

Awards and Service

- One of the three invited speakers on Information Theory at the Rényi Centennial Conference in 2022.
- Student Lekshmi Ramesh awarded the Best Student Paper Award at IEEE International Symposium on Information Theory, 2021
- Awarded the Indian National Science Academy (INSA) Young Scientists Medal, 2020
- Associate Editor for IEEE Transactions on Information Theory, July 2020
- Area Editor, Foundations and Trends in Communication and Information Theory, Now Publishers, March 2020
- Invited to deliver a short course on Information Theoretic Cryptography at the Croucher Summer School on Information Theory, Chinese University of Hong Kong, July 2019
- Senior Member, IEEE, April 2020
- Keynote speaker at the annual symposium of the School of Technology and Computer Science, TIFR, April 2019
- Ph.D. Student Prathamesh Mayekar was awarded the Best Student Paper Award at IEEE International Symposium on Information Theory, 2018
- Tutorial speaker at IEEE International Symposium on Information Theory, 2017
- Student Prathamesh Mayekar was selected as a finalist for Qualcomm Innovation Fellowship, India.
- Tutorial speaker at IEEE International Symposium on Information Theory, 2017
- Research fellow at the Institute of Henri Poincare (IHP), Paris, for the Information Theory thematic semester from January 2016 to April 2016
- Distinguished Dissertation Fellowship, Department of ECE, University of Maryland, 2012
- Future Faculty Program Fellow, Clark School of Engineering, University of Maryland, 2010
- Finalist for the Best Student Paper Award, IEEE International Symposium on Information Theory, 2010
- Among the top 200 reviewers for NeurIPS 2018, 2019 (given free registration)
- Technical program committees for conferences: ISIT 2017, 2018; NeurIPS 2018, 2019; AISTATS 2019, 2020; ITW 2015, 2018; NCC 2017, 2019; SPCOM 2016, 2018