

# CV of Amin Aminzadeh Gohari

## EDUCATION

- **MSc. / PhD.** in Electrical Engineering and Computer Sciences 2004 - 2010  
**University of California, Berkeley**
- **BSc.** in Electrical Engineering 2000- 2004  
**Sharif University of Technology**, Tehran, Iran

## REASERCH INTERESTS

- Information Theory

## AWARDS

- **2010 Eli Jury Award** from **U.C. Berkeley**, Department of Electrical Engineering and Computer Sciences for “*outstanding achievement in the area of Communication Networks*”.
- **2009-2010 Bernard Friedman Memorial Prize in Applied Mathematics** from **U.C. Berkeley**, Department of Mathematics for “*demonstrated ability to do research in applied mathematics.*”
- **Gold Medal**, *41st International Mathematical Olympiad (IMO 2000)*, Taejon, South Korea, July 2000.
- **First Prize**, *9<sup>th</sup> International Mathematical Competition for University Students (IMC 2002)*, July 2002, Warsaw, Poland.
- **Gold Medal**, *National Mathematical Competition for University Students*, May 2002, Zanjan, Iran.
- **Gold Medal**, *National Mathematical Olympiad*, Iran, Summer 1999.
- **Graduate Fellowship**, UC Berkeley, 2004.
- **Silver Medal**, *National Mathematical Olympiad*, Iran, Summer 1998.
- **2013 IEEE Jack Keil Wolf ISIT Student Paper Award** (*as co-author*)

- **Exemplary reviewer** for IEEE Transactions on Communications in 2016 and 2017.
- **Student Paper Award Finalist** (*as co-author*), Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2012.
- **Student Paper Award Finalist**, Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2010.
- **Student Paper Award Finalist**, Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2009.
- **Student Paper Award Finalist**, Proceedings of the IEEE International Symposium on Information Theory (ISIT), 2008.

### **Scientific Service**

1. Currently an Associate Editor for the IEEE Transactions on Information Theory (Associate Editor At Large). The main domain of an AE At Large is Applied Probability and Statistics.
2. Secretary of the IEEE Iran Section Society on Communications and Information Theory, 2015-2018.
3. Executive Co-Chair, Iran Workshop on Communication and Information Theory, 2013-2018
4. Technical Program Committee member for ISIT 2018, ISIT 2016, IWCIT 2013-2018, ICC 2014, ICCVE 2013, WCSP'12.

### **Teaching experience**

1. Associate Professor, Sharif University of Technology, Tehran, Iran, 2010-2018. Courses taught: Network Information Theory, Quantum Information Theory, High-Dimensional Probability, Advanced Engineering Mathematics, Engineering Mathematics, Probability and Statistics, Numerical Calculations, Analog Circuits, Circuit Theory.
2. Offered a course at the Technical University of Munich (TUM), Germany, Course on Probabilistic Methods, Summer 2017.

## JOURNAL PAPER PUBLICATIONS

### Measures of Correlation

1. Salman Beigi, Amin Gohari, *Phi-Entropic Measures of Correlation*, IEEE Transactions on Information Theory 64 (4), 2193-2211, 2018.
2. Salman Beigi, Omid Etesami, Amin Gohari, *Deterministic Randomness Extraction from Generalized and Distributed Santha--Vazirani Sources*, SIAM Journal on Computing 46 (1), 1-36, 2017.
3. Omid Etesami and Amin Gohari, *Maximal Rank Correlation*, IEEE Communication Letters, 20 (1), 117-120, 2016.
4. Salman Beigi and Amin Gohari, *Monotone Measures for Non-Local Correlations*, IEEE Transactions on Information Theory, 2015.

### Shannon Theory

1. Venkat Anantharam, Amin Gohari, and Chandra Nair. *On the evaluation of Marton's inner bound for two-receiver broadcast channels*, IEEE Transactions on Information Theory (2018).
2. H. Ghourchian, G. Aminian, A. Gohari, M. Mirmohseni, M. Nasiri-Kenari, *On the Capacity of a Class of Signal-Dependent Noise Channels*. IEEE Transactions on Information Theory, 64(12), 7828-7846, 2018.
3. Hamid Ghourchian, Arash Amini, Amin Gohari, *How Compressible are Innovation Processes?* IEEE Transactions on Information Theory, 64 (7), 4843-4871, 2018.
4. Amin Gohari and Venkat Anantharam, *Comments On "Information-Theoretic Key Agreement of Multiple Terminals—Part I"*, IEEE Transactions on Information Theory 63 (8), 5440-5442, 2017.
5. Hamid Ghourchian, Amin Gohari, Arash Amini, *Existence and continuity of differential entropy for a class of distributions*, IEEE Communications Letters 21 (7), 1469-1472, 2017.

6. Farzin Haddadpour, MH Yassaee, Salman Beigi, Amin Gohari, MR Aref, *Simulation of a channel with another channel*, IEEE Transactions on Information Theory 63 (5), 2659-2677, 2017.
7. MohammadMahdi Mojahedian, MohammadReza Aref, Amin Gohari, *Perfectly secure index coding*, IEEE Transactions on Information Theory 63 (11), 7382-7395, 2017.
8. Mohammad Hossein Yassaee, Amin Gohari and Mohammad Reza Aref, *Channel simulation via interactive communications*, IEEE Transactions on Information Theory, 61 (6): 2964 - 2982, 2015.
9. Sina Molavipour and Amin Gohari, *Recovery From Random Samples in a Big Data Set*, IEEE Communication Letters, 19 (11), 2015.
10. Mehrdad Tahmasbi, Amirbehshad Shahrabi and Amin Gohari, *Critical Graphs in Index Coding*, IEEE Journal on Selected Areas in Communications, 33(2), 2015.
11. Mohammad Hossein Yassaee, Mohammad Reza Aref and Amin Gohari, *Achievability Proof via Output Statistics of Random Binning*, IEEE Transactions on Information Theory, 60 (11): 6760 - 6786, 2014.
12. Amin Gohari and Venkat Anantharam, *Infeasibility Proof and Information State in Network Information Theory*, IEEE Transactions on Information Theory, 60 (10), 2014.
13. Yanlin Geng, Amin Gohari, Chandra Nair and Yuanming Yu, *On Marton's inner bound and its optimality for classes of product broadcast channels*, IEEE Transactions on Information Theory, 60 (8):22-41, 2014
14. Amin Gohari, Abbas El Gamal and Venkat Anantharam, *On Marton's inner bound for the general broadcast channel*, IEEE Transactions on Information Theory, 60 (1), 2014.
15. Amin Gohari, Shenghao Yang and Sidharth Jaggi, *Beyond the Cut Set Bound: Uncertainty Computations in Network Coding with Correlated Sources*, IEEE Transactions on Information Theory 59 (5), 5708 - 5722, 2013.
16. Amin Gohari and Venkat Anantharam, *Evaluation of Marton's Inner Bound for the General Broadcast Channel*, IEEE Transactions on Information Theory, Volume 58, Issue 2, Feb. 2012.

17. Amin Gohari and Venkat Anantharam, *Information-Theoretic Key Agreement of Multiple Terminals - Part I: Source Model*, IEEE Transactions on Information Theory, Volume 56, Issue 8, Aug. 2010.
18. Amin Gohari and Venkat Anantharam, *Information-Theoretic Key Agreement of Multiple Terminals - Part II: Channel Model*, IEEE Transactions on Information Theory, Volume 56, Issue 8, Aug. 2010.
19. Alex G. Dimakis, Amin Gohari and Martin Wainwright, *Guessing Facets: Polytope Structure and Improved LP Decoding*, IEEE Transactions on Information Theory, Volume 55, Issue 8, Aug. 2009.

### **Quantum Information Theory**

1. Salman Beigi and Amin Gohari, *Quantum Achievability Proof via Collision Relative Entropy*, IEEE Transactions on Information Theory, 60 (12): 7980 - 7986, 2014.
2. Salman Beigi and Amin Gohari, *On Dimension Bounds for Auxiliary Quantum Systems*, IEEE Transactions on Information Theory, 60 (10): 368-387, 2014.

### **Molecular Communication**

1. R Mosayebi, A Gohari, M Mirmohseni, M Nasiri-Kenari, *Type-Based Sign Modulation and Its Application for ISI Mitigation in Molecular Communication*, IEEE Transactions on Communications 66 (1), 180-193, 2018.
2. M. Farahnak-Ghazani, G. Aminian, M. Mirmohseni, A. Gohari, A., M. Nasiri-Kenari, *On Medium Chemical Reaction in Diffusion-Based Molecular Communication: a Two-Way Relaying Example*. IEEE Transactions on Communications, 2018.
3. H Arjmandi, M Movahednasab, A Gohari, M Mirmohseni, M Nasiri-Kenari, *ISI-Avoiding Modulation for Diffusion-Based Molecular Communication*, IEEE Transactions on Molecular, Biological and Multi-Scale Communications, 3(1), 48-59, 2017.
4. Amin Gohari, M Mirmohseni, M Nasiri-Kenari, *Information theory of molecular communication: Directions and challenges*, IEEE Transactions on Molecular, Biological and Multi-Scale Communications, 2016.

5. M Movahednasab, M Soleimanifar, A Gohari, M Nasiri-Kenari, U Mitra, *Adaptive transmission rate with a fixed threshold decoder for diffusion-based molecular communication*, IEEE Transactions on Communications 64 (1), 236-248, 2016.
6. G. Aminian, H. Arjmandi, Amin Gohari, Masoumeh Nasiri-Kenari, Urbashi Mitra, *Capacity of Diffusion-Based Molecular Communication Networks Over LTI-Poisson Channels*, IEEE Transactions on Molecular, Biological and Multi-Scale Communications, 1 (2), 188 - 201, 2015.
7. R. Mosayebi, H. Arjmandi, Amin Gohari, Masoumeh Nasiri-Kenari, Urbashi Mitra, *Receivers for Diffusion Based Molecular Communication: Exploiting Memory and Sampling Rate*, IEEE Journal on Selected Areas in Communications, 32 (12), 2368 - 2380, 2014.
8. Hamidreza Arjmandi, Amin Gohari, Masoumeh Nasiri-Kenari, Farshid Bateni, *Diffusion Based Nanonetworking: A New Modulation Technique and Performance Analysis*, IEEE Communications Letter, 2013

### **Game theory and Information theory**

1. M. Valizadeh, A. Gohari, *Playing games with bounded entropy*, Games and Economic Behavior, 115, 363-380, 2019.
2. Payam Delgosha, Amin Gohari, Mohammad Akbarpour, *High-Probability Guarantees in Repeated Games: Theory and Applications in Information Theory*, Proceedings of the IEEE, 105 (2), 189-204, 2017.
3. P. Delgosha, A. Gohari, *Information Theoretic Cutting of a Cake*. IEEE Transactions on Information Theory, 63(11), 6950-6978, 2017.

### **Miscellaneous**

1. E. Mohammadi, A. Gohari and F. Marvasti, "A Square Root Sampling Law for Signal Recovery," in IEEE Signal Processing Letters, vol. 26, no. 4, pp. 562-566, April 2019.
2. Salman Beigi, Omid Etesami and Amin Gohari, *The Value of Help Bits in Randomized and Average-Case Complexity*, computational complexity 26 (1), 119-145, 2017.