

Hossein Pishro-Nik

EDUCATION

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| 2001-2005 | Georgia Institute of Technology, Atlanta, Georgia
Ph.D. and M.Sc. in Electrical and Computer Engineering |
| 1996-2000 | Sharif University of Technology, Tehran, Iran
B.Sc. in Electrical and Computer Engineering |

EXPERIENCE

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| 2020-present | University of Massachusetts, Amherst
Department of Electrical and Computer Engineering
Professor |
| 2012-2020 | University of Massachusetts, Amherst
Department of Electrical and Computer Engineering
Associate Professor |
| 2005-2011 | UMass, Assistant Professor |
| 2001-2005 | Georgia Institute of Technology, Atlanta, Georgia
Graduate Research Assistant |
| 1999 | Iran Telecommunication Research Center (ITRC), Computer and
Communications Department, Tehran, Iran. Summer Intern |

RESEARCH INTEREST

Wireless Networks, Coding and Information Theory, Information Theoretic Privacy and Security, Vehicular/UAV Communications and Networking, Statistical Learning.

HONORS AND PROFESSIONAL ACTIVITIES

- Associate Editor, IEEE Transactions on Wireless Communications, 2018-current.
- Associate Editor, IEEE Communications Letters, 2018-2020.
- Technical Program Committee, IEEE International Symposium on Information Theory, 2021
- Technical Program Committee, IEEE Vehicular Technology Conference, 2009, 2010, 2011, 2017.
- Associate Editor, IEEE Transactions on Communications, 2012-2015.
- Technical Program Committee, IEEE Globecom 2008, 2017.

- Tutorials chair for IEEE Vehicular Technology Conference, 2015.
- Technical Program Committee, IEEE International Symposium on Wireless Vehicular Communications, IEEE WIVEC2014.
- Local arrangement co-chair of IEEE ISIT 2012.
- Co-Chair, Vehicular networking track of IEEE PIMRC 2011.
- Technical Program Committee, International Symposium on Wireless Vehicular Communications, 2011.
- Lead Guest Editor, EURASIP Journal of Advanced Signal Processing: special issue on vehicular networks, 2010.
- National Science Foundation CAREER Award, 2009.
- College of Engineering Outstanding Junior Faculty Award, 2009.
- Frequent NSF Panelist, 2007-current.
- ECE Graduate Research Assistant Excellence Award, Georgia Inst. of Technology, 2005
- CSIP Outstanding Research Award, Georgia Institute of Technology, 2005
- Member of IEEE Communications Society, IEEE Information Theory Society, and IEEE Signal Processing Society
- Ranked 4th among 6000 students in the Iranian national qualifying exam for graduate studies in electrical engineering, 2000.
- Ranked 25th among about 250,000 participants in Iranian National University Entrance Exam for B.Sc. degree, 1996.
- Awarded a silver medal and two bronze medals in Iranian National Computer and Mathematics Olympiads, 1995 and 1996.

SELECTED FUNDING

- Sole PI on NSF Grant CNS 1932326 “CPS: Small: Trajectory-Based Cyber-Physical Networks: Theoretical Foundation and a Practical Implementation,” Period: 10/2019-09/2022, Awarded Amount: \$496,878.00
- PI on NSF Grant CNS 1739462 “CPS: Medium: A Unified Framework for IoT Privacy,” Period: 09/2017-08/2021, Awarded Amount: \$999,995. Co-PIs: D. Goeckel and A. Houmansadr.
- Co-PI on NSF Grant CCF 1343007 “CIF: Small: Everlasting Security for Disadvantaged Wireless Communications,” Period: 07/2014-06/2018, Awarded Amount: \$504,522.00. PI Dennis Goeckel, Co-PI Hossein Pishro-Nik.
- Sole PI on NSF CAREER grant, “CAREER: A theoretical framework for vehicular ad hoc networks,” Period: 07/2009-06/2015, Awarded Amount: \$400,000.

- PI on NSF Grant CCF-0728970, “Collaborative Research: Study of Wireless Ad-Hoc and Sensor Networks in a Finite Regime,” Co-PI: Prof. Fekri, Georgia Tech, Period: 01/2007-01/2011, Awarded Amount: \$350,000, PI Share: \$210,000.
- Sole PI on NSF Grant CCF- 0830614, “Fundamental Trade-Offs and Parametric Decoding for LDPC Codes,” Period: 09/2008-08/2012, Awarded amount: \$150,000.
- PI on NSF Grant ECS-0636569, “Collaborative Research: Optimal Hybrid RF-Wireless Optical Communication for Maximum Efficiency and Reliability,” 01/07-01/10, awarded amount: \$449,888”. Co-PIs: Prof. Oliaei from UMASS, and Prof. Adibi from Georgia Tech.

PUBLICATIONS

Books

- H. Pishro-Nik, “Introduction to Probability, Statistics, and Random Processes,” ISBN 978-0990637202, 2014, online at www.probabilitycourse.com.

Selected Journal Papers

- M. Khosravi, S. Enayati, H. Saeedi, H. Pishro-Nik, “Multi-Purpose Drones for Coverage and Transport Applications,” IEEE Transactions on Wireless Communications, 2021.
- N. Takbiri, A. Houmansadr, D. Goeckel, and H. Pishro-Nik, “Privacy of Dependent Users Against Statistical Matching,” IEEE Transactions on Information Theory, 2020.
- N. Takbiri, A. Houmansadr, D.L. Goeckel, and H. Pishro-Nik, “Matching Anonymized and Obfuscated Time Series to Users’ Profiles,” IEEE Transactions on Information Theory, Vol. 65, No. 2, pp. 724 – 741, 2019.
- Z. Montazeri, A. Houmansadr, H. Pishro-Nik, “Achieving Perfect Location Privacy in Wireless Devices Using Anonymization,” IEEE Transactions on Information Forensics and Security, 2017.
- Azadeh Sheikholeslami, Majid Ghaderi, Hossein Pishro-Nik and Dennis Goeckel, “Energy-Efficient Secrecy in Wireless Networks Based on Random Jamming”, IEEE Transactions on Communications, Vol. 65, No. 6, pp. 2522 - 2533, 2017.
- A. Rakhshan and H. Pishro-Nik, “Improving Safety on Highways by Customizing Vehicular Ad Hoc Networks,” IEEE Transactions on Wireless Communications, Vol. 16, No. 3, pp. 2017-2026, 2017.
- M. Moltafet, N. Mokari, M. R. Javan, H. Saeedi and H. Pishro-Nik, “A New Multiple Access Technique for 5G: Power Domain Sparse Code Multiple Access (PSMA),” in IEEE Access, 2017.
- A. Sheikholeslami, H. Pishro-Nik, M. Ghaderi, and D. Goeckel, “Energy-Efficient Routing in Wireless Networks in the Presence of Jamming,” IEEE Transactions on Wireless Communications, Vol. 15, No. 10, pp. 6828-6842, 2016.

- A. Sheikholeslami, D. Goeckel, and H. Pishro-Nik, "Jamming Based on an Ephemeral Key to Obtain Everlasting Security in Wireless Environments," *IEEE Transactions on Wireless Communications*, Vol. 14, No. 11, pp. 6072-6081, 2015.
- M. Nekoui and H. Pishro-Nik, "Analytic Design of Active Safety Systems for Vehicular Ad hoc Networks," *IEEE Journal on Selected Areas in Communications*, Volume: 31, Issue: 9, 2013.
- A. Eslami and H. Pishro-Nik, "On Finite-Length Performance of Polar Codes: Stopping Sets, Error Floor, and Concatenated Design," *IEEE Transactions on Communications*, Vol. 61, No. 3, pp. 919-929, 2013.
- A. Sheikholeslami, D. Goeckel, and H. Pishro-nik, "Everlasting Secrecy by Exploiting Non-Idealities of the Eavesdropper's Receiver," *IEEE Journal of Selected Areas in Communications*, vol. 31, no. 9, pp. 1828-1839, 2013.
- A. Eslami, M. Nekoui, H. Pishro-Nik, and F. Fekri, "Results on Finite Wireless Sensor Networks: Connectivity and Coverage," *ACM Transactions on Sensor Networks*, Vol. 9, No. 4, 2013.
- M. Nekoui and H. Pishro-Nik, "Throughput Scaling Laws for Vehicular Ad Hoc Networks," *IEEE Transactions on Wireless Communications*, Vol. 11, No. 8, pp. 2895-2905, 2012.
- H. Saeedi, A. Banihashemi, and H. Pishro-Nik, "Successive maximization for the systematic design of universally capacity approaching rate-compatible sequences of LDPC code ensembles over binary-input output-symmetric memoryless channels," *IEEE Transactions on Communications*, Vol. 59, NO. 7, July 2011.
- A. Eslami, S. Vangala, and H. Pishro-Nik, "Hybrid channel codes for highly efficient FSO/RF communication systems," *IEEE Transactions on Communications*, Vol. 58, No. 8, 2010.
- A. Eslami, M. Nekoui, and H. Pishro-Nik, "Results on Finite Wireless Networks on a Line," *IEEE Trans. Communications*, Volume 58, Issue 8, p.p. 2204 - 2211, 2010.
- H. Pishro-Nik, K. Chan, and F. Fekri, "Connectivity properties of large-scale sensor networks," *Wireless Networks Springer*, PP 945-964, 2009.
- W. L. Leow, D. Ni, and H. Pishro-Nik, "A Sampling Theorem Approach to Traffic Sensor Optimization," *IEEE Transactions on Intelligent Transportation Systems*. Vol. 9, No. 2, pp. 369-374, 2008.
- H. Pishro-Nik and F. Fekri, "Results on punctured low-density parity-check codes and improved iterative decoding techniques," *IEEE Transactions on Information Theory*. Vol. 53, No. 2, pp. 599-614, 2007.
- N. Rahnavard, H. Pishro-Nik, F. Fekri, "Unequal error protection using LDPC codes," *IEEE Transactions on Communications*, Vol. 55, No. 3, Page(s): 387 - 391, 2007.
- H. Pishro-Nik and F. Fekri, "Performance of low-density parity-check codes with linear minimum distance," *IEEE Transactions on Information Theory*, Vol. 52, No. 1, pp. 292-300, 2006.
- H. Pishro-Nik, N. Rahnavard, and F. Fekri, "Non-uniform error correction using low-density parity check codes," *IEEE Transactions on Information Theory*, Vol. 51, No. 7, pp. 2702-2714, 2005.
- H. Pishro-Nik, and F. Fekri, "On decoding of LDPC codes over the erasure channel," *IEEE Transactions on Information Theory*. Vol. 50, No. 3, pp. 439-454, 2004.