

# Morteza Banagar

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## PERSONAL INFORMATION

470 Durham Hall  
Department of Electrical and Computer Engineering  
Virginia Tech, Blacksburg, VA, USA

Zoom ID: 355 814 2857  
mobile: +1 (540) 257-2357  
e-mail: mbanagar@vt.edu

## RESEARCH INTERESTS

UAV Communications, Heterogeneous Networks, D2D Communications, Stochastic Geometry, MIMO

## EDUCATION

**Virginia Tech**, Blacksburg, VA, USA

*Doctor of Philosophy in Electrical Engineering*

Jan. 2018 – Present

- Advisor: Dr. Harpreet S. Dhillon

**University of Tehran**, Tehran, Iran

*Master of Science in Electrical Engineering – Communication Systems*

Sep. 2012 – Sep. 2014

- Thesis: **A Stochastic Geometric Approach for the Analysis and Design of Cognitive Device-to-Device Networks**
- Advisor: Dr. Behrouz Maham

*Bachelor of Science in Electrical Engineering – Telecommunications*

Sep. 2008 – Sep. 2012

- Thesis: **Carrier and Symbol Synchronization Techniques**
- Advisor: Dr. Ali Olfat

## BOOK CHAPTERS

[BC1] **M. Banagar**, V. V. Chetlur, and H. S. Dhillon, “Stochastic geometry-based performance analysis of drone cellular networks,” in *UAV Communications for 5G and Beyond*, Y. Zeng, I. Guvenc, R. Zhang, G. Geraci, and D. W. Matolak, eds. Wiley, 2020.

## JOURNAL PUBLICATIONS

[J4] **M. Banagar**, H. S. Dhillon, and A. F. Molisch, “Impact of UAV jittering on the air-to-ground wireless channel,” submitted to *IEEE Trans. Veh. Technol.*, Apr. 2020.

[J3] **M. Banagar** and H. S. Dhillon, “Performance characterization of canonical mobility models in drone cellular networks,” *IEEE Trans. Wireless Commun.*, vol. 19, no. 7, pp. 4994-5009, July 2020.

[J2] **M. Banagar**, V. V. Chetlur, and H. S. Dhillon, “Handover probability in drone cellular networks,” *IEEE Wireless Commun. Lett.*, vol. 9, no. 7, pp. 933-937, July 2020.

[J1] **M. Banagar**, B. Maham, P. Popovski, and F. Pantisano, “Power distribution of device-to-device communications in underlaid cellular networks,” *IEEE Wireless Commun. Lett.*, vol. 5, no. 2, pp. 204-207, Apr. 2016.

## CONFERENCE PUBLICATIONS

[C5] **M. Banagar** and H. S. Dhillon, “Fundamentals of drone cellular network analysis under random waypoint mobility model,” in *IEEE Global Commun. Conf. (Globecom)*, Dec. 2019, pp. 1-6.

[C4] **M. Banagar** and H. S. Dhillon, “3GPP-inspired stochastic geometry-based mobility model for a drone cellular network,” in *IEEE Global Commun. Conf. (Globecom)*, Dec. 2019, pp. 1-6.

[C3] **M. Banagar**, B. Maham, and V. Shah-Mansouri, “Bounds on the coverage probability of heterogeneous cellular networks,” in *IEEE Int. Conf. Commun. (ICC) Workshops*, May 2016, pp. 755-759.

[C2] A. Eshraghi, B. Maham, Z. Han, and **M. Banagar**, “Efficiency and coverage improvement of active RFID two-hop relay systems,” in *IEEE Wireless Commun. Netw. Conf. (WCNC)*, Apr. 2014, pp. 2002-2007.

[C1] N. Zarmehi, **M. Banagar**, and M. A. Akhaee, “Optimum decoder for an additive video watermarking with Laplacian noise in H.264,” in *IEEE Int. Conf. Inform. Security Cryptology*, Aug. 2013, pp. 1-5.

WORK EXPERIENCE	<b>Qualcomm Technologies, Inc.</b> Role: <i>System Engineering Intern</i> Manager: <i>Dr. Christos Kominakis</i>	Summer 2020
TEACHING EXPERIENCE	<b>Stochastic Signals and Systems</b> Role: <i>Teaching Assistant</i> Instructor: <i>Dr. Harpreet S. Dhillon</i>	Fall 2018
	<b>Signals and Systems</b> Role: <i>Teaching Assistant</i> Instructor: <i>Dr. Ting-Chung Poon</i> (Virginia Tech) Instructor: <i>Dr. Mohammad Ali Akhaee</i> (University of Tehran)	Spring 2018 Spring & Fall 2012, Spring 2013
	<b>Communication Systems I</b> Role: <i>Teaching Assistant</i> Instructor: <i>Dr. Ali Olfat</i> Instructor: <i>Dr. Vahid Shah-Mansouri</i>	Spring 2013 Fall 2013
	<b>Engineering Probability and Statistics</b> Role: <i>Teaching Assistant</i> Instructor: <i>Dr. Amir Masoud Rabiei</i>	Fall 2011
LANGUAGE SKILLS	Persian: Native English: Fluent Arabic: Familiar	
SOFTWARE	Programming: MATLAB, Python, C++, C# Simulation: Simulink, Multisim Applications: L <sup>A</sup> T <sub>E</sub> X, Microsoft Word/PowerPoint/Excel/Visio	
REFERENCES	Dr. Harpreet S. Dhillon <i>Associate Professor &amp; Turner Faculty Fellow, Wireless@Virginia Tech, Bradley Department of ECE, Virginia Tech, Blacksburg, VA, USA</i> e-mail: hdhillon@vt.edu  Dr. Behrouz Maham <i>Associate Professor, Department of ECE, Nazarbayev University, Astana, Kazakhstan</i> e-mail: behrouz.maham@nu.edu.kz  Dr. Vahid Shah-Mansouri <i>Assistant Professor, School of ECE, University of Tehran, Tehran, Iran</i> e-mail: vmansouri@ut.ac.ir	