Mikhail Hayhoe — Curriculum Vitae

Department of Electrical & Systems Engineering
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Education

- **Doctor of Philosophy**, *University of Pennsylvania* **Aug. 2017 - May 2022 (Expected)**
  - Supervisor: *Professor Victor M. Preciado*
- **Master of Applied Science**, *Queen's University* **Sept. 2015 - Aug. 2017**
  - Thesis: *A Polya-Urn Stochastic Model for Analysis and Control of Epidemics on Networks*
  - Supervisors: *Professors Fady Alajaji and Bahman Gharesifard*
- **Bachelor of Science Engineer** (First Class Honours), *Queen's University* **May 2015**
  - Discipline: Mathematics and Engineering – Systems and Robotics
  - Honours Thesis: *Distributed Triggering Strategies for the Deployment of Autonomous Mobile Networks with Outdated Information*
  - Supervisor: *Professor Bahman Gharesifard*

Research Interests

Networked Systems, Control Theory, Stochastic Processes, Data Mining, Machine Learning, Optimization

Experience

- **Ph.D. Research**, *Department of Electrical & Systems Engineering*, *University of Pennsylvania* **Aug. 2017 - Present**
  - Topics: Network alignment; Collaborative identification of LTI systems; Community detection
- **M.A.Sc. Research**, *Department of Mathematics and Statistics*, *Queen's University* **Sept. 2015 - Aug. 2017**
  - Topic: Epidemics on Networks
- **Guest Lecturer**, *Department of Electrical & Systems Engineering*, *University of Pennsylvania* **Fall 2018**
  - Gave two lectures for a graduate course on Data Mining
- **Guest Lecturer**, *Department of Mathematics and Statistics*, *Queen's University* **Fall 2016**
  - Gave two lectures for a mixed graduate and fourth-year undergraduate course on Optimization Theory and its Applications
- **Teaching Assistant**, *Department of Electrical & Systems Engineering*, *University of Pennsylvania*
  - Convex Optimization **Winter 2019**
  - Data Mining **Fall 2018**
- **Teaching Assistant**, *Department of Mathematics and Statistics*, *Queen's University*
  - Data Compression and Source Coding, Differential & Integral Calculus, Linear Algebra **Winter 2017**
  - Optimization Theory and its Applications, Algebraic Structures **Fall 2016**

- Data Compression and Source Coding, Probability II, Linear Algebra **Winter 2016**
- Information Theory, Probability I, Calculus I **Fall 2015**

◇ **Honours Research**, *Faculty of Engineering and Applied Science*, *Queen's University* **Sept. 2014 - Apr. 2015**

- Topic: Distributed Control Strategies in Sensor Networks

◇ **Business Director**, *Science Quest*, *Kingston, Ontario* **Winter - Fall 2014**

- Financial and business manager of STEM-based outreach organization with $250,000 in revenue and 19 employees

Publications

Journal Papers

◇ Mikhail Hayhoe, Fady Alajaji, and Bahman Gharesifard, *Curing Epidemics on Networks using a Polya Contagion Model*, submitted, available at arXiv: 1711.03070, 2017

◇ Mikhail Hayhoe, Fady Alajaji, and Bahman Gharesifard, *A Polya Contagion Model for Networks*, IEEE Transactions on Control of Network Systems, to appear, 2017

Conference Papers

◇ Mikhail Hayhoe, Francisco Barreras, Hamed Hassani, and Victor M. Preciado, *SPECTRE: Seedless Network Alignment via Spectral Centralities*, submitted, available at arXiv: 1811.01056, 2018

◇ Mikhail Hayhoe, Fady Alajaji, and Bahman Gharesifard, *Curing with the Network Polya Contagion Model*, Proceedings of the 2018 American Control Conference

◇ Mikhail Hayhoe, Fady Alajaji, and Bahman Gharesifard, *A Polya urn-based model for epidemics on networks*, Proceedings of the 2017 American Control Conference

Fellowships and Awards

◇ Ganster Fellowship, University of Pennsylvania **Aug. 2017**

◇ Student Best Paper Award Finalist, 2017 American Control Conference **May 2017**

◇ NSERC Alexander Graham Bell Canadian Graduate Scholarship – Masters **Sept. 2016 - Aug. 2017**

◇ Frank E. Smith Award in Communications Engineering Theory **Sept. 2015 - Aug. 2016**

◇ Principal's Scholarship **Sept. 2011 - Apr. 2013**

Academic Community Involvement

◇ Presentations: ACC 2018; ACC 2017; Dept. of Mathematics & Statistics 3-Minute Thesis at Queen's University; Dynamics Seminar at Queen's University

◇ Session Chair: ACC 2018; ACC 2017

◇ Reviewer: CDC 2018; ACC 2017.