Louis Shekhtman

Education:

Bar-Ilan University	Israel	Physics	PhD, 2020
Bar-Ilan University	Israel	Physics	M.S. with Distinction, 2015
Northwestern University	USA	Physics and Integrated Science	B.A., 2013

Positions

Postdoctoral Researcher, Network Science Institute, Northeastern University, 2019-Present
Researcher, Loyola University Medical Center, USA, 2014–present.
Research Intern, Nokia Bell Labs, Israel, 2018.
Kupcinet-Getz Summer Program, Weizmann Institute, 2012

Selected Publications

Over 800 citations to papers on Google Scholar, h-index of 12, and 12 papers with at least 10 citations.
*Equal Contribution

1. Guanwen Zeng, Jianxi Gao, **Louis M. Shekhtman**, Shengmin Guo, Weifeng Lv, Jianjun Wu, Hao Liu, Orr Levy, Daqing Li, Ziyou Gao, H. Eugene Stanley, and Shlomo Havlin. Multiple metastable network states in urban traffic. *PNAS*, 117(30):17528, (2020).
2. Yangyang Liu, Hillel Sanhedrai, Gaogao Dong, **Louis M. Shekhtman**, Fan Wang, Sergey V Buldyrev, Shlomo Havlin. Efficient network immunization under limited knowledge. *National Science Review*, nwaa229, 2020.
3. **Louis M. Shekhtman**, and Shlomo Havlin. Spatio-temporal infrastructure networks. In *Proceedings of the International School of Physics*, 171-190. IOS Press 2019.
4. G. Dong*, J. Fan*, **L. Shekhtman***, S. Shai*, R. Du, L. Tian, X. Cheng, H. E. Stanley, and S. Havlin, Resilience of networks with community structure behaves as if under an external field, *PNAS* 201801588 (2018).
5. M. Major, A. Gutfraind*, **L. Shekhtman***, Q. Cui, A. Kachko, S. J. Cotler, B. Hajarizadeh, R. Sacks-Davis, K. Page, B. Boodram, and H. Dahari, Model-based analysis of patient immunity profiles indicates that vaccination could reduce hepatitis C transmission via syringe sharing, *Science Translational Medicine* 10, eaao4496 (2018).
6. **L. Shekhtman**, Michael M Danziger, I. Bonamassa, S. Buldyrev, G. Caldarelli, V. Zlatic, and S. Havlin, Critical field-exponents for secure message-passing in modular networks, *New J. Phys*. 20, 053001, (2018).
7. F. Zollo, A. Bessi, M. Del Vicario, A. Scala, G. Caldarelli, **L. Shekhtman**, S. Havlin, and W. Quattrociocchi. Debunking in a world of tribes. *PLOS One* 12, e0181821 (2017).
8. **L. Shekhtman**, S. Shai, S. Havlin, Resilience of networks formed of interdependent modular networks, *New J. Phys*. 17, 123007 (2015).
9. **L. Shekhtman**, Y. Berezin, M.M. Danziger, S. Havlin, Robustness of a network formed of spatially embedded networks, *Phys. Rev. E* 90, 012809 (2014).
10. **L. Shekhtman**, J. Bagrow, D. Brockmann, Robustness of skeletons and salient features in networks, *Journal of Complex Networks* 2, 220 (2014).

Selected Talks at International Conferences

1. "Resilience of Hierarchical Networks and Interdependent Hierarchical Networks," *Complex Networks 2018*, Cambridge, UK, 2018.
2. "Secure message-passing in networks with communities", *NetONets Netsci*, Indianapolis, USA, 2017.
3. "The effect of spatiality on multiplex networks", *NetSci-X*, Tel Aviv, Israel, 2017.
4. "Resilience of Interdependent Modular Networks", *Challenges in Data Science*, Torino, Italy, 2015.
5. "The Resilience of Networks Formed of Spatially Embedded Networks", *SIAM Workshop on Network Science*, Chicago, USA, 2014

Selected Poster Presentations
1. **L. Shekhtman** and E. Waisbard Securing Log Files through Blockchain Technology. *SYSTOR*, Haifa, Israel, 2018.
2. **L. Shekhtman**, N. Borochov, S. Cotler, L. Hershkovich, S. Uprichard, M. Al-Mahtab, M. Bazinet, A. Vaillant, H. Dahari, Modeling serum HBsAg, HBV DNA and transaminase kinetics during REP 2139 monotherapy in chronic HBeAg+ HBV infection *In Journal of Hepatology*, 68, S508. 2018.
3. E. Shteyer, **L. Shekhtman**, I. Gafanovich, D. Wolf, D. Armoni, R. Tur-Kaspa, M. E. Major, A. Stern, S. Peretz-Harari, S. Cotler, T. Zinger, H. Dahari, Y. Lurie, Estimating the contamination level that caused an outbreak of acute hepatitis c (ahc) transmitted by iv injection of contrast material during computerized tomography. *In Hepatology*, 66, 474A, 2017.

Participation in Schools and Workshops
1. "Blockchain Workshop" by The Blockchain Academy, Bar Ilan University, 2017
2. "The Theory of Networks", The 27th Jerusalem School in Economic Theory, Israel Institute for Advanced Studies, Hebrew University, Jerusalem, Israel, 2016
3. PRACE High Performance Computing Winter Workshop, Tel Aviv, Israel, 2014

Peer-Review Referee for:
- Nature Scientific Reports
- EPL (Europhysics Letters)
- Physics Letters A
- PLOS One
- Computer Communications
- J. of Complex Networks
- Physica A
- Reliability Engineering and System Safety

Recognized as Outstanding Reviewer for Physica A (2017), Reliability Engineering and System Safety (2017), and Computer Communications (2017).

Prizes
- Rector's Prize, Bar Ilan University, 2018
- Student Service Award, Integrated Science Program, 2013
- Earl Wilson Gsell Scholarship, 2012
- Florence Siddall Friend Scholarship, 2011
- Faye Angell Memorial Scholarship, 2011

Funding Awards
Bar-Ilan University Presidential Scholarship, 2016-2019, 196,000 New Israeli Shekels
Israeli Ministry of Absorption Scholarship, 2016-2018, 82,200 New Israeli Shekels
SIAM Student Travel Award 2014, 800 USD
Kovler Scholarship, 2010-2013, 30,000 USD

Teaching
PHYS-5116 Complex Networks, Northeastern University, 2019-2020
86-80758-03 Introductory Physics Laboratory, Bar-Ilan University, 2015-2018
86-80759-02 Introductory Physics Lecture, Bar-Ilan University, 2017
ISP-101 Introductory Programming Course in Python, Northwestern University, 2012-2013

Skills
*Programming***:** Experienced in Python (including scientific packages such as scipy, numpy, matplotlib, networkx, etc), C++, Matlab, and Latex; very familiar with Java, Linux, R, Qt Creator, qGIS, SQL

Coursera courses on Machine learning, Deep Learning (TensorFlow, Keras), Hadoop, MySQL, Bitcoin and Cryptocurrency Technologies, and others. See **Linkedin** for full list.