# Maksim Kitsak

Contact Information	Northeastern University Physics Department & Network Science Institute 177 Huntington ave, #239 Boston, MA 02115 USA	Voice: +1 (857) 869-5102 Fax: +1 (617) 373-4385 E-mail: m.kitsak@neu.edu Webpage: web.northeastern.edu/mkitsak/		
Citizenship	United States of America			
Research Interests	I am generally interested in Network and Data Sciences, and Statistical Inference. My research is driven by problems in <i>Social Sciences, Cyber-Security, Biomedicine, Neuroscience</i> and <i>Civil Infrastructure</i> .			
Grants & Funding	<ul> <li>Grants</li> <li>Latent Structure and Dynamics of Big Data, Key personnel, with D. Krioukov (PI, Northeastern University), \$900,000, National Science Foundation (2017-2020).</li> <li>Link Prediction and Community Inference in Networks using Latent Geometry, co-PI, with D. Krioukov (PI, Northeastern University), \$300,000, Army Research Office (2017-2020).</li> </ul>			
Related Professional Experience	Delft University of Technology (TU Delft), Delft, The Netherlands.Faculty of Electrical Engineering, Mathematics, & Computer ScienceQuantum & Computer Engineering Department,The Network Architectures & Services Group,Assistant Professor (tenure track)March, 2020 - Present			
	Northeastern University, Network Science Institute, Boston, Massachusetts			
	USA. Associate Research Scientist Postdoctoral Scientist	August, 2014 - February, 2020 August, 2012 - July, 2014		
	Dana-Farber Cancer Institute,Center for Cancer Systems Biology (CCSB),Harvard Medical School,Boston,Massachusetts USA.Visiting Postdoctoral ScientistAugust, 2012 - September, 2015			
	Northeastern University, Department of Mathematics, Boston, Massachusetts USA. Part-time Lecturer September, 2014 - December, 2014			
	UC San Diego, The Cooperative Association for Internet Data Analysis (CAIDA), La Jolla, California USA			
	Postaoctoral ScientistAugust, 2009 - August, 2012Boston University, Center for Polymer Studies, Boston, Massachusetts USA Research AssistantSeptember, 2005 - July, 2009			
	<b>Fraunhofer Institute IISB</b> , Erlangen, Germany Intern	April, 2003 - August, 2003		
	<b>Photeon Technologies GmbH</b> , Bregenz, Austria Intern	July, 2002 - August, 2002		

EDUCATION Boston University, Boston, Massachusetts USA				
	Ph.D., Physics, May 2009			
	<ul> <li>Thesis Topic: Organization of Complex Networks</li> <li>Advisor: Professor H. Eugene Stanley</li> <li>Area of Study: Complex Networks, Statistical Physics</li> </ul>			
	M.A., Physics, February 2005			
	<ul> <li>Area of Study: Quantum Field Theory, Elementary Particle Physics</li> <li>GPA: 3.94/4.00</li> </ul>			
	Belarusian State University, Minsk, Belarus			
	Specialist Diploma, Physics, June 2002			
	<ul> <li>With Honors in Physics</li> <li>Thesis Topic: Non-stationary 4 wave mixing in resonant media.</li> <li>Advisor: Professor Alexei. L. Tolstik</li> <li>Area of Study: Nonlinear Optics, Laser Physics and Spectroscopy</li> <li>GPA: 4.8/5.0</li> </ul>			
TEACHING	Course Instructor • PHYS 5115, Quantum Mechanics,			
	<ul><li>co-taught with D. Krioukov</li><li>PHYS 5115, Quantum Mechanics,</li></ul>	Northeastern	University, Spring, 2020.	
	<ul><li>co-taught with D. Krioukov</li><li>PHYS2305, Thermodynamics and Statistic</li></ul>	Northeaste al Mechanics,	ern University, Fall, 2019.	
	<ul> <li>co-taught with D. Krioukov Northeastern University, Spring, 2019.</li> <li>PHYS2305, Thermodynamics and Statistical Mechanics, co-taught with D. Krioukov Northeastern University Spring, 2018</li> </ul>			
	<ul> <li>PHYS2305, Thermodynamics and Statistical Mechanics,</li> </ul>			
	<ul><li>co-taught with D. Krioukov</li><li>MATH1342, Calculus II for Sci. &amp; Eng.</li></ul>	Northeastern Northeaste	University, Spring, 2017. ern University, Fall, 2014.	
	Teaching Assistant		· · · · · · · · · · · · · · · · · · ·	
	<ul> <li>PY105, Introductory Physics</li> <li>PY106, Introductory Physics</li> </ul>	Boston Un Boston Uni	versity, Summer I, 2006.	
	• PY106, Introductory Physics	Boston University, Spring, 2005.		
	• PY355, Methods of Theoretical Physics	Boston	University, Spring, 2005.	
	• PY105, Introductory Physics	Bost	ion University, Fall, 2004.	
	<ul> <li>PY313, Elementary Modern Physics</li> <li>PV106 Introductory Physics</li> </ul>	Boston University, Summer 1, 2004.		
	<ul><li>PY105, Introductory Physics</li></ul>	Boston University, Fall, 2003.		
Advising				
	Interns and Graduate Students     Chiere Orgini (ac supervised with D. Krie)	ukov)	UC San Dioro	
• Omara Orshin (co-supervised with D. Krioukov) currently Software Development Engineer at Amazon		UC Sall Diego		
	• Susan Ghiassian (co-supervised with AL. Barabási) Northeastern University			
	currently Director of Network Medicine and Systems Biology at Scipher Medicine			
	• William Cunningham (co-supervised with D. Krioukov) Northeastern University			
	Maksim Piskunov (co-supervised with D. I	Crioukov)	Northeastern University	
	• Ivan Voitalov (co-supervised with D. Kriou	ıkov)	Northeastern University	

#### Postdoctoral Fellows

- Rodrigo Aldecoa (co-mentored with D. Krioukov) Northeastern University currently Senior Data Scientist at The Shortest Track
- Alexander Ganin (co-mentored with I. Linkov)

U.S. Army Corps of Engineers

• Jason Bassett (co-mentored with I. Linkov) U.S. Army Corps of Engineers

#### RESEARCH

Summary: 24 peer-reviewed publications, citations: 3,895 (by Google Scholar) Representative Publications

 A. Ganin, <u>M. Kitsak</u>, D. Marchese, J. M. Keisler, T. Seager, and I. Linkov, *Resilience and Efficiency in Transportation Networks*, Science Advances **3** 12 e1701079 (2017).

**PRESS:** NU, National Public Radio, Australia Policy Online, WTOP, Laboratory Equipment, Tech Xplore, CITY LAB.

- <u>M. Kitsak</u>, A. Elmokashfi, S. Havlin, and D. Krioukov, Long-Range Correlations and Memory in the Dynamics of Internet Interdomain Routing, PLOS ONE 10(11) e0141481 (2015).
- J. Menche, A. Sharma, <u>M. Kitsak</u>, S. Ghiassian, M. Vidal, J. Loscalzo, and A.-L. Barabási, *Uncovering Disease-Disease Relationships Through the Incomplete Interactome*, Science **347** 6224 (2015).

PRESS: MedicalXpress, Mathesia, Celiac.com, Northeastern University

 F. Papadopolous, <u>M. Kitsak</u>, M. Serrano, M. Boguñá, and D. Krioukov *Popularity* Versus Similarity in Growing Networks, Nature 489 537 (2012).

**PRESS:** UCSD, SDSC, Nature, Nature Physics, PhysOrg, ScienceDaily, AMS, Le Scienze

M. Kitsak, L. K. Gallos, S. Havlin and H. A. Makse, *Identification of Influential Spreaders in Complex Networks*, Nature Physics 6 888 (2010).

**PRESS:** Technology Review, ScienceDaily, FastCompany, Science for SEO, Wemedia, NSF

#### Journal Articles in Submission and Preparation

- 1. <u>M.Kitsak</u>, *Latent Geometry for Complementarity-Driven Networks*, (in preparation) (2020).
- <u>M. Kitsak</u>, A. Ganin, H. Cui, D. Eisenberg, A. Elmokashfi, D. Korkin, D. Alderson, and I. Linkov, *Reconstructing Communication Paths in Incomplete Networks*, (in preparation) (2020).
- M. Kitsak, I. Voitalov, and D. Krioukov, Link Prediction with Hyperbolic Geometry, Phys. Rev. X. (under review) (2020), arXiv:1903.08810

### **Refereed Journal Articles**

- A. Ganin, A. Mersky, A. Jin, <u>M. Kitsak</u>, J. Keisler, and I. Linkov, *Resilience for Intelligent Transportation Systems (ITS)*, Transportation Research Part C 100 318 (2019).
- D. Eisenberg, <u>M. Kitsak</u>, A. Ganin, I. Linkov and D. Alderson, *Network Founda*tion for Command and Control (C2) Systems: Literature Review, IEEE Access 6 68782 (2018).

- M. Kitsak, A. Ganin, D. Eisenberg, I. Linkov, and D. Alderson, Stability of a Giant Connected Component in a Complex Network, Phys. Rev. E 97 012309 (2018).
- A. Ganin, <u>M. Kitsak</u>, D. Marchese, J. M. Keisler, T. Seager, and I. Linkov, *Resilience and Efficiency in Transportation Networks*, Science Advances **3** 12 e1701079 (2017).

**PRESS:** NU, National Public Radio, Australia Policy Online, WTOP, Laboratory Equipment, Tech Xplore, CITY LAB.

- M. Kitsak, F. Papadopolous, and D. Krioukov, Latent Geometry of Bipartite Networks, Phys. Rev. E 95 032309 (2017).
- M. Kitsak, A. Sharma, J. Menche, E. Guney, S. Ghiassian, and A.-L. Barabási, *Tissue Specificity of Human Disease Module*, Nature Scientific Reports 6 35241 (2016).
- M. Kitsak, A. Elmokashfi, S. Havlin, and D. Krioukov, Long-Range Correlations and Memory in the Dynamics of Internet Interdomain Routing, PLOS ONE 10(11) e0141481 (2015).
- J. Menche, A. Sharma, <u>M. Kitsak</u>, S. Ghiassian, M. Vidal, J. Loscalzo, and A.-L. Barabási, *Uncovering Disease-Disease Relationships Through the Incomplete Interactome*, Science **347** 6224 (2015).

PRESS: MedicalXpress, Mathesia, Celiac.com, Northeastern University

- 9. A. Sharma, J. Menche, C. Huang, T. Ort, X. Zhou, <u>M. Kitsak</u>, N. Sahni, D. Thibault, L. Voung, F. Guo, N. Gulbahce, F. Baribaud, J. Tocker, R. Dobrin, E. Barnathan, H. Liu, R. A. Panettieri Jr., S. Ghiassian, N. Gulbahce, R. A. Panettieri Jr., K. G. Tantisira, W. Qiu, B. A. Raby, E. K. Silverman, M. Vidal, S. T. Weiss and A.-L. Barabási, A disease module in the interactome explains disease heterogeneity, drug response and captures novel pathways and genes, Human Molecular Genetics **24** 3005 (2014).
- M. Boguna, <u>M. Kitsak</u>, and D. Krioukov, *Cosmological Networks*, New Journal of Physics 16 093031 (2014).
- D. Krioukov, <u>M. Kitsak</u>, R.S. Sinkovits, D. Rideout, D. Meyer, and M. Boguñá, *Network Cosmology*, Nature Scientific Reports 2 793 (2012).

**PRESS:** UCSD, SDSC, Space, Time, The Register, CBS, Huffington Post, Huffington PostUK, PopularScience, LiveScience, Slashdot, RobotsNet, PhysOrg, ScienceDaily, TGDaily, DigitalJournal...

- F. Papadopolous, <u>M. Kitsak</u>, M. Serrano, M. Boguñá, and D. Krioukov *Popularity Versus Similarity in Growing Networks*, Nature **489** 537 (2012).
   **PRESS:** UCSD, SDSC, Nature, Nature Physics, PhysOrg, ScienceDaily, AMS, Le Scienze
- M. Kitsak, and D. Krioukov, *Hidden Variables in Bipartite Networks*, Phys. Rev. E 84 026114 (2011).
- D. Krioukov, F. Papadopolous, <u>M. Kitsak</u>, A. Vahdat, and M. Boguñá, *Hyperbolic Geometry of Complex Networks*, Phys. Rev. E 82 036106 (2010).
- M. Kitsak, L. K. Gallos, S. Havlin and H. A. Makse, *Identification of Influential Spreaders in Complex Networks*, Nature Physics 6 888 (2010).

**PRESS:** Technology Review, ScienceDaily, FastCompany, Science for SEO, Wemedia, NSF

- M. Kitsak, M. Riccaboni, S. Havlin, F. Pammolli and H. E. Stanley, Structure of Business Firm Networks and Scale-Free Models, Phys. Rev. E 81 036117 (2010).
- J. Shao, S. V. Buldyrev, R. Cohen, <u>M. Kitsak</u>, S. Havlin and H. E. Stanley, *Fractal Boundaries of Complex Networks*, Europhys. Lett. 84 48004 (2008).
- M. A. Kitsak and A. I. Kitsak, Spatial Coherence of the Stokes Component of Stimulated Raman Scattering Excited in a Long Multimode Fibre, Quantum Electronics 38(7) 681 (2008).
- <u>M. A. Kitsak</u> and A. I. Kitsak, Cross Modulation Method of Transformation of the Spatial Coherence of Pulsed Laser Radiation in a Nonlinear Medium, Quantum Electronics 38(4) 365 (2008).
- M. Kitsak, S. Havlin, G. Paul, M. Riccaboni, F. Pammolli, and H. E. Stanley, Betweenness Centrality of Fractal and Non-Fractal Scale-Free Model Networks and Tests on Real Networks, Phys. Rev. E 75 056115 (2007).
- M. A. Kitsak and A. I. Kitsak, Efficiency of Nonstationary Transformation of the Spatial Coherence of Pulsed Laser Radiation in a Multimode Optical Fibre upon Self-Phase Modulation, Quantum Electronics 37(8) 770 (2007).
- A. I. Kitsak and <u>M. A. Kitsak</u>, Transformation of the Spatial Coherence of Pulsed Laser Radiation Transmitted in the Nonlinear Regime through a Multimode Gradedindex Fibre, Quantum Electronics 36(1) 27 (2006).
- O. Ormachea, <u>M.A. Kitsak</u> and A.L. Tolstik, *Multiwave Mixing in Complex Molec*ular Media and Dynamic Modes of Light-Wave Transformation, Nonlinear Phenom. Complex Syst. 6(3) 762 (2003).
- M.A. Kitsak Nonstationary Four Wave Mixing in Resonant Media Under Conditions of Effective Parametrical Energy Transfer, Journal of Optical Technology 69 7-458 (2002).

# Proceedings

- <u>M.A. Kitsak</u> and A.I. Kitsak, Studies of the Angular Frequency Spectrum of Raman Scattering Stokes Component Radiation Excited in an Extensive Multimode Waveguide, Proc. SPIE **7008** 700810 (2008).
- M.A. Kitsak and A.I. Kitsak, The Efficiency of the Non-Stationary Process of Transformation of Spatial Coherence of Pulse Laser Radiation in a multimode Waveguide at the Phase Self-Modulation, Proc. SPIE 7008 70081N (2008).
- 3. <u>M.A. Kitsak</u> and A.I. Kitsak, *The Efficiency of Spatial Coherency Nonlinear Trans*formation of Pulse Laser Radiation in a Multimode Waveguide at Different Statistical Models of Incoming Radiation, Proc. SPIE **6729** 67291Z (2007).
- M.A. Kitsak and A.I. Kitsak, The Analysis of Spatial Modes of the Raman Scattering Stokes Component Radiation Excited in an Extensive Multimode Waveguide, Proc. SPIE 6729 67291Y (2007).
- A.I. Kitsak and <u>M.A. Kitsak</u>, Transformation of Coherent and Angular Characteristics of Pulse Radiation at Self-Modulation in Non-Homogeneous Multimode Waveguides, Proc. SPIE 6254 625418 (2006).

### **Books and Book Chapters**

I. Häring, G. Sansavini, E. Bellini, N. Martyn, T. Kovalenko, <u>M. Kitsak</u>, G. Vogelbacher, K. Ross, U. Bergerhausen, K. Barker, and I. Linkov *Towards a Generic Resilience Management, Quantification and Development Process: General Definitions, Requirements, Methods, Techniques and Measures, and Case Studies*, chapter of *Resilience and Risk*. (I. Linkov, J. M. Palma-Oliveira [eds]) Springer, Dordrecht, 2017, pp 21-80.

#### Patents

- A.S. Rubanov, A.I. Kitsak, N.V. Karelin, M.A. Kitsak and V. M. Suchek, *The method of the spatial coherency tranformation of the pulse laser radiation and its realization*, Belarus Patent Number **8325**, Issued 8/30/06, priority from 11/21/02.
- A.I. Kitsak, M.A. Kitsak, N.V.Karelin and V.M. Suchek, *The method of the spatial coherency reduction of the pulse laser radiation and the method of realization*, Belarus Patent Number **12107**, Issued 12/30/08, priority from 04/20/07.

#### Talks

## Invited Talks

- Latent Geometry Enables Hyperbolic and Geo-Hyperbolic Routing Schemes, guest lecture at SimulaMet, Oslo, Norway, May, 2019.
- Complex Systems through the Lens of Network Geometry, colloquium talk at the University of Pittsburgh, Pittsburgh, PA, January, 2019.
- Latent Geometry in Networked Systems: theory, inference and applications, seminar at the University at Buffalo, Buffalo, NY, December, 2018.
- Resilience and Efficiency in Transportation Networks, public talk at DC Mayor's office, Washington, DC, March, 2018.
- Latent Geometry of Networked Systems: Theory, Inference and Applications, talk at the Network Science Seminar talk at UC Davis, Davis, CA, February, 2018.
- Latent Geometry of Networked Systems: Theory and Applications, colloquium talk at Yeshiva University, New York, NY, February 2018.
- *Hyperbolic Geometry of Networked Systems*, seminar talk at the Queen Mary University of London, London, UK, December, 2017.
- Hyperbolic Geometry of Protein-Protein Interaction Networks, given at the NetMed17 workshop, Indianapolis, IN, June, 2017.
- Latent Geometry in Networked Systems: from Interdomain Routing to Human Diseases, colloquium talk given at the Rensselaer Polytechnic Institute, Troy, NY, February, 2017.
- Geometry of Networked Systems, colloquium talk given at the UC Merced, Merced, CA, April, 2016.
- Latent Geometry in Technological, Social and Biological Systems, colloquium talk given at the Indiana University, Bloomington, IN, March, 2015.
- The Latent Geometry Formalism and its Applications to Social, Technological and Biological Systems, colloquium talk given at the Northwestern University, Evanston, IL, January, 2014.
- Network Geometry in 3+ Dimensions, given at the Network Geometry Workshop, UC San Diego, La Jolla, CA, August, 2013.
- Do Bipartite Network Have Metric Structure?, given at the UC Human Complexity Seminar Series, UC San Diego, La Jolla, CA, May, 2011.
- Identification of Influential Spreaders in Complex Networks, given at the workshop on Bridging Psychology and Neurophysiology, University of North Texas, Denton, TX, March, 2011.
- *Epidemics in Social Networks*, colloquium talk given at the CSE, University of Nevada, Reno, NV, December, 2010.

# **Contributed Talks**

- Link Prediction with Hyperbolic Geometry, given at the NetSci 2019 conference, Burlington, VT, May, 2018.
- Latent Structure and Dynamics of Big Data, given at the NSF PI meeting, Washington, DC, July, 2018.
- Stability of a Giant Connected Component in a Complex Network, given at the CompleNet 2018 conference, Boston, MA, March, 2018.
- Predicting Protein Interactions with Latent Geometry, given at the NetSci 2017 conference, Indianapolis, IN, June, 2017.
- Long-Range Correlations and Memory in the Dynamics of Internet Routing, given at the NetSci 2016 conference, Seoul, June, 2016.
- Lorentz-Invariant Maximum Entropy Network Ensembles, given at the CompleNet 2016 workshop, March, 2016.
- Resilience of Networked Systems Under Epidemic Spreading, given at the World Congress on Risk 2015, Singapore, July, 2015.
- Operational Resilience and Critical Functionality in Networked Systems: Concepts, Design and Analysis, given at the World Congress on Risk 2015, Singapore, July, 2015.
- *Tissue Specificity of Human Disease*, given at the NetSci 2014 conference, Berkeley, CA, USA, June, 2014.
- Popularity vs Similarity in Growing Complex Networks, given at the Network Frontier Workshop, Evanston, IL, USA, December, 2013.
- *Network Geometry*, given at the NetSci 2013 conference, Technical University of Denmark, Copenhagen, Denmark, June, 2013.
- Geometry of Complex Networks, given at the Center for Cancer Systems Biology Retreat conference, Rockport, MA, USA, September, 2012.
- Popularity vs Similarity in Growing Complex Networks, given at the NetSci 2012 conference, Evanston, IL, USA, June, 2012.
- Do bipartite networks have metric structure?, given at the APS March Meeting, Boston, MA, February, 2012.
- Do bipartite networks have metric structure?, given at the NetSci 2011 conference, Budapest, Hungary, June, 2011.
- Identification of Influential Spreaders in Complex Networks, given at the Future Internet and Society: A Complex Systems Perspective conference, Maratea, Italy, October, 2010.
- *Metric Structure of Bipartite Networks*, given at the CCNR, Northeastern University, MA, USA, May, 2010
- Identification of Influential Spreaders in Complex Networks, given at the NetSci 2010 conference, Boston, MA, USA, May, 2010.
- Leadership in Business Firm Networks, given at the 100th Statistical Mechanics Conference, Rutgers University, NJ, USA, December, 2008
- K-shell Structure of Complex Networks, given at the Tenth Annual Greater Boston Area Statistical Mechanics Meeting, Waltham, MA, USA, October, 2008
- Organization of Complex Networks, given at the NetSci 08 conference, Norwich, UK, June, 2008.
- K-shell Structure of Large-Scale Complex Networks, given at the CCNR, Northeastern University, MA, USA, April, 2008.
- Transport properties of Fractal and Non-Fractal Scale-Free Networks, given at the NetSci 07 conference, Queens, NY, USA, May, 2007.
- Self-Similarity of Complex Networks, given at Boston University, MA, USA, March, 2007.
- Non-stationary 4-wave mixing in resonant media given at the 2nd International Conference of Young Scientists and Specialists Optics-2001, St. Petersburg, Russian Federation, October, 2001.

# PROFESSIONAL SERVICE Funding Agency Grant Reviewer and Panelist National Science Foundation (NSF) Israel Science Foundation

## **Editorial Board Member**

Nature Scientific Reports

### Journal Reviewer

Nature Machine Intelligence, Nature Human Behaviour, Nature Communications, Nature Scientific Reports, IEEE Transactions on Network Science and Engineering, Internet Mathematics, PLOS ONE, Computational Social Networks, Physical Review X, Physical Review Letters, Physical Review E, Journal of Statistical Physics, Chaos, Europhysics Letters, New Journal of Physics, Physica A, Journal of Complex Networks

## Seminar and Workshop Organizer

- Focus session on Network Theory at the 2019 March APS Meeting
- Network Geometry and Topology Workshop (GeoTopoNets 2016), satellite to the NetSci 2016 conference in Seoul, Korea, June, 2016
- The Joint Network Seminar, Boston University and Northeastern University, MA, USA March, 2008 May, 2009; September 2012 Present
- CAIDA/UCY Workshop on Network Geometry, (co-organizer) University of Cyprus, Cyprus, January 2011
- Information Theory and Applications Workshop (ITA) 2010, (co-organizer) UC San Diego, CA, USA, January February, 2010
- UCSD Complex Network Seminar (DANCES), UC San Diego, CA, USA October, 2010 Present
- The Network Seminar, Boston University, MA, USA, March, 2007 February, 2008

## **Program Committee Member**

- NetSci 2019, The Flagship Conference on Network Science in Burlington, VT, USA, May, 2019
- Complex Networks 2018, The 7<sup>th</sup> International Workshop on Complex Networks and their Applications in Cambridge, UK, December, 2018
- CompleNet'18, International Conference on Complex Networks in Boston, MA, USA, March, 2018
- Macfang BCN 2017, Mapping Complexity Foundations and Applications of Network Geometry in Barcelona, Spain, November, 2017
- Complex Networks 2017, The  $6^{th}$  International Workshop on Complex Networks and their Applications in Lyon, France, November, 2017
- NetSci-X 2017, International School and Conference on Network Science, Tel Aviv, Israel, January, 2017
- Complex Networks 2016, The 5<sup>th</sup> International Workshop on Complex Networks and their Applications in Milan, Italy, November, 2016

# References

- Professor Albert-László Barabási (postdoctoral mentor), Distinguished Professor of Physics, Director of the Center for Complex Network Research, Northeastern University Boston, Massachusetts, USA *email:* jmstanfill.ccnr@gmail.com; *voice:* 617.373.2355 *reference request:* send.Barabasi.446FAFC340@interfolio.com
- Professor Dmitri Krioukov (postdoctoral mentor), Associate Professor of Physics, Northeastern University Boston, Massachusetts, USA email: dima@neu.edu; voice: 617.373.2934 reference request: send.Krioukov.958D723FEA@interfolio.com
- Professor H. Eugene Stanley (Ph.D. advisor), William Fairfield Warren Distinguished Professor, University Professor, Director of the Center for Polymer Studies, Boston University, Boston, Massachusetts USA *email:* hes@bu.edu; voice: 617.353.2617 reference request: send.Stanley.4E0EEEAA5D@interfolio.com
- Professor Shlomo Havlin (senior collaborator), Distinguished Professor of Physics, Department of Physics, Bar-Ilan University, Ramat-Gan, Israel *email:* havlin@ophir.ph.biu.ac.il; *voice:* +972.3.5318436 *reference request:* send.Havlin.3027859B14@interfolio.com
- Prof. Igor Linkov (senior collaborator), Risk and Decision Science Focus Area Lead, U.S. Army Corps of Engineers, Concord, Massachusetts, USA Adjunct Professor, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA email: Igor.Linkov@usace.army.mil; voice: +1.617.233.9869