ARI E. KAHN

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EDUCATION

University of Pennsylvania *2013–Current*
Ph.D. Candidate, Neuroscience Philadelphia, PA
Advisor: Danielle S. Bassett, Ph.D.
Expected Date of Completion: Spring 2019

Washington University in St. Louis *2007–2011*
B.S. in Computer Science & Chinese St. Louis, MO
Minor in Physics
Graduated with Engineering Honors, Cum Laude

RESEARCH EXPERIENCE

Tel Aviv University *2012*
Research Assistant Tel Aviv, Israel
Advisor: Matti Mintz, Ph.D.
Computational modeling of the cerebellar microcircuit for sequential learning

Tel Aviv University *Winter 2011*
Research Assistant Tel Aviv, Israel
Advisor: Ehud Gazit, Ph.D.
Implemented and refined a protocol for self-assembling nanospheres

Technion University *Summer 2010*
Research Assistant Haifa, Israel
Advisor: Nahum Shimkin, Ph.D.
Implemented a machine learning based multilayer flight simulator framework

Washington University in St. Louis *2008–2009*
Research Assistant St. Louis, MO
Advisor: William Smart, Ph.D.
Designed framework for BCI-based control of simulated robotic prostheses

PUBLICATIONS

Human Sensitivity to Community Structure Is Robust to Topological Variation Elisabeth A. Karuza, **Ari E. Kahn**, and Danielle S. Bassett. In: Complexity, vol. 2019, Article ID 8379321 (2019).

Network constraints on learnability of probabilistic motor sequences
Ari E. Kahn, Elisabeth A. Karuza, Jean M. Vettel, and Danielle S. Bassett. In: Nature Human Behavior 2, pp. 936-947 (2018).

Structure from noise: Mental errors yield abstract representations of events
Chris W. Lynn, **Ari E. Kahn**, and Danielle S. Bassett. In: arXiv (2018).

Modular Segregation of Structural Brain Networks Supports the Development of Executive Function in Youth
Graham L. Baum, Rastko Ciric, David R. Roalf, Richard F. Betzel, Tyler M. Moore, Russell T. Shinohara,

Ari E. Kahn, Simon N. Vandekar, Petra E. Rupert, Megan Quarmley, Philip A. Cook, Mark A. Elliott, Kosha Ruparel, Raquel E. Gur, Ruben C. Gur, Danielle S. Bassett, and Theodore D. Satterthwaite. In: Current Biology 27.11, p. 1561 (2017).

Structural Pathways Supporting Swift Acquisition of New Visuomotor Skills
Ari E. Kahn, Marcelo G. Mattar, Jean M. Vettel, Nicholas F. Wymbs, Scott T. Grafton, and Danielle S. Bassett In: Cerebral Cortex 27.1, pp. 173–184 (2017).

Process reveals structure: How a network is traversed mediates expectations about its architecture
Elisabeth A. Karuza, **Ari E. Kahn**, Sharon L. Thompson-Schill, and Danielle S. Bassett. In: Scientific Reports 7.1, p. 12733 (2017).

Role of graph architecture in controlling dynamical networks with applications to neural systems
Jason Z. Kim, Jonathan M. Soffer, **Ari E. Kahn**, Jean M. Vettel, Fabio Pasqualetti, and Danielle S. Bassett. In: Nature Physics (2017).

Cliques and cavities in the human connectome
Ann E. Sizemore, Chad Giusti, **Ari Kahn**, Jean M. Vettel, Richard F. Betzel, and Danielle S. Bassett. In: Journal of Computational Neuroscience, pp. 1–31 (2017).

Individual Differences in Learning Social and Non-Social Network Structures
Steven H. Tompson, **Ari E. Kahn**, Emily B. Falk, Jean M. Vettel, and Danielle S. Bassett. In: Journal of Experimental Psychology: Learning, Memory, and Cognition. In Press. (2018)

Developmental increases in white matter network controllability support a growing diversity of brain dynamics
Evelyn Tang, Chad Giusti, Graham L. Baum, Shi Gu, Eli Pollock, **Ari E. Kahn**, David R. Roalf, Tyler M. Moore, Kosha Ruparel, Ruben C. Gur, Raquel E. Gur, Theodore D. Satterthwaite, and Danielle S. Bassett. In: Nature Communications 8.1, p. 1252 (2017).

Inter-regional ECoG correlations predicted by communication dynamics, geometry, and correlated gene expression
Richard F. Betzel, John D. Medaglia, **Ari E. Kahn**, Jonathan Soffer, Daniel R. Schonhaut, and Danielle S. Bassett. In: arXiv (2015).

Controllability of structural brain networks
Shi Gu, Fabio Pasqualetti, Matthew Cieslak, Qawi K. Telesford, Alfred B. Yu, **Ari E. Kahn**, John D. Medaglia, Jean M. Vettel, Michael B. Miller, Scott T. Grafton, and Danielle S. Bassett. In: Nature Communications 6 (2015).

TALKS

Network Constraints on Learnability of Probabilistic Motor Sequences
Ari E. Kahn, Elisabeth A. Karuza, Jean M. Vettel, Danielle S. Bassett. CompleNet. March 4–8, 2018, Boston, Massachusetts, USA.

Network Constraints on Learnability of Probabilistic Motor Sequences
Ari E. Kahn, Elisabeth A. Karuza, Jean M. Vettel, Danielle S. Bassett. SIAM Workshop on Network Science. July 12–13, 2018, Portland, Oregon, USA.

POSTERS

Beyond graph topology: Walk structure influences cluster-level surprisal effects in an online learning task
Elisabeth A. Karuza, **Ari E. Kahn**, Sharon L. Thompson-Schill, Danielle S. Bassett. Psychonomics. November 17–20, 2016, Boston, Massachusetts, USA.

Structural Correlates of Individual Differences in Motor Sequence Learning
Ari E. Kahn, Marcelo G. Mattar, Jean M. Vettel, Nicholas F. Wymbs, Scott T. Grafton, Danielle S. Bassett. Society for Neuroscience, November 12–16, 2016, San Deigo, California, USA.

A model of sequential learning in the cerebellum
Ari E. Kahn, Ari Magal, Roni Hogri and Matti Mintz. Society for Neuroscience, October 13–17, 2012, New Orleans, Louisiana, USA.

AWARDS

SIAM Student Travel Award *Spring 2018*

Jameson-Hurvich Travel Award *Fall 2016*

TEACHING AND MENTORING

Teaching Assistant
Introduction to Brain and Behavior *Spring 2016*
Led weekly undergraduate recitation section and wrote testing material

OUTREACH

Upward Bound
Summer Neuroscience Elective
Head Coordinator *2016–2018*
Instructor *2014–2015*

Penn Neuroscience Public Lecture Series
Committee Member *2014–2017*

Neuroscience Elementary School Outreach Program
Instructor *2013–2017*

PROFESSIONAL AFFILIATIONS

Society for Neuroscience

SIAM

SKILLS

Programming	Python, R, Matlab, JavaScript, C, C++, LaTeX
Image Processing	FSL, ANTs, FreeSurfer, DTI Studio