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## Education

University of Pennsylvania  
Ph.D. Neuroscience

August 2017 – Present

*Advisor: Dr. Danielle Bassett*

*Coursework: cell biology, electrophysiology, neuroanatomy, theoretical neuroscience, linear systems theory, machine learning*

University of Virginia  
B.S. Computer Science  
B.A. Cognitive Science

August 2012 – May 2016

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## Positions

2017 – present **Ph.D. Candidate** / Neuroscience / University of Pennsylvania

2015 – 2017 **Research Assistant** / Systems Neurodynamics Lab / University of Virginia

Summer 2016 **Research Assistant** / Center for Brain Immunology & Glia / University of Virginia

2013 – 2014 **Research Assistant** / Radiation Oncology / University of Virginia

Summer 2013 **Intern** / iOS Development / WillowTree Inc.

Summer 2010 **Intern** / Technology Center / National Radio Astronomy Observatory

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## Awards

- 2019 Travel award to attend Sackler Colloquia: Brain Produces Mind by Modeling
- 2018 Fine Science Tools travel award to attend Society for Neuroscience conference
- 2016 Rader Award for Undergraduate Research for Thesis Project, UVA
- 2012 Rodman scholar (top 5% of prospective engineering students), UVA
- 2012 QuestBridge finalist

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## Peer-reviewed Publications

**Harang Ju**, Dale Zhou, Ann S. Blevins, David M. Lydon-Staley, Judith Kaplan, Julio R. Tuma, Danielle S. Bassett. The network structure of scientific revolutions. *arXiv:2010.08381 [physics]* (2020) [arXiv](#)

**Harang Ju**, Jason Z Kim, Danielle S. Bassett. Network structure of cascading neural systems predicts stimulus propagation and recovery. *Journal of Neural Engineering* (2020) [article](#)

**Harang Ju**, Danielle S. Bassett. Dynamic representations in networked neural systems. *Nature Neuroscience* (2020) [article](#)

Evelyn Tang, **Harang Ju**, Graham L Baum, David R Roalf, Theodore D Satterthwaite, Fabio Pasqualetti, Danielle S Bassett. Control of brain network dynamics across diverse scales of space and time. *Physical Review E* (2020) [article](#)

Pragya Srivastava, Erfan Nozari, Jason Z. Kim, **Harang Ju**, Dale Zhou, Cassiano Becker, Fabio Pasqualetti, Danielle S. Bassett. Models of communication and control for brain networks: distinctions, convergence, and future outlook (2020) [article](#)

**Harang Ju**, Costa M. Colbert, William B Levy. Limited synapse overproduction can speed development but sometimes with long-term energy and discrimination penalties. *PLOS Computational Biology* (2017) [article](#)

**Harang Ju**, Siyong Kim, Paul Read, Daniel Trifiletti, Andrew Harrell, Bruce Libby, Taeho Kim. Development of a novel remote-controlled and self-contained audiovisual- aided interactive system for immobilizing claustrophobic patients. *Journal of Applied Clinical Medical Physics* (2015) [article](#)

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## Talks

- April 2019 —Flash talk, Sackler Colloquia: Brain Produces Mind by Modeling. Irvine, CA.
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## Posters

- September 2019 — Cognitive Computational Neuroscience. Berlin, Germany.
  - May 2019 — Context and Episodic memory Symposium. Philadelphia, PA.
  - May 2019 — Sackler Colloquia: Brain Produces Mind by Modeling. Irvine, CA.
  - November 2018 — Society for Neuroscience. San Diego, CA.
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## Teaching

Fall 2020	<b>Guest Lecture</b> / BE566: Network Neuroscience / University of Pennsylvania / <i>Case Study: The network structure of scientific revolutions</i>
Fall 2019	<b>Teaching Assistant</b> / BBB249: Cognitive Neuroscience / University of Pennsylvania
Fall 2019	<b>Guest Lecture</b> / BE566: Network Neuroscience / University of Pennsylvania / <i>Case Study: Network Structure and Dynamics in Cascading Neural Systems</i>
2016 – 2017	<b>Teaching Assistant</b> / BME3636: Neural Network Models / University of Virginia

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## Patents

Taeho Kim, **Harang Ju**, Siyong Kim. Intrafractional motion reduction system using audiovisual-aided interactive guidance and related methods thereof. US 2017/0231530 A1, United States Patent and Trademark Office, 17 August 2017.

Last updated: 2020.10.21