

---

EDUCATION	<b>Stanford University</b> Ph.D. Physics, awarded June 2014. Thesis Advisor: Leonard Susskind  <b>University of California, Berkeley</b> A.B. Physics, awarded May 2008 B.S. Mathematics, awarded May 2008
EMPLOYMENT	<b>Cornell University</b> Postdoctoral scholar, member of Simons Collaboration on the Nonperturbative Bootstrap, September 2017 - present.  <b>University of California, Santa Barbara</b> Postdoctoral scholar, September 2014 - September 2017.
RESEARCH INTERESTS	Conformal field theory, large- $N$ gauge theory, black holes, AdS/CFT and applications, entanglement and quantum information, non-AdS holography, quantum cosmology, disordered systems and glassy dynamics.
SEMINAR AND CONFERENCE ORGANIZATION	Two-day <a href="#">Southern California Strings Seminar</a> conference taking place at KITP, weekly high energy theory seminars at UC Santa Barbara and Cornell University.
EDITORIAL WORK	Referee for Physics Letters B, JHEP, SciPost Physics, Fortschritte der Physik
INVITED TALKS	<i>Quantum mechanics in the ultraviolet</i> , Princeton seminar, November 2019. <i>Quantum mechanics in the ultraviolet</i> , University of Minnesota seminar, October 2019. <i>Quantum gravity in a finite box</i> , Harvard seminar, September 2019. <i>Quantum gravity in a finite box</i> , Boston University seminar, September 2019. <i>Quantum gravity in a finite box</i> , Brandeis seminar, September 2019. <i>Quantum mechanics in the ultraviolet</i> , “ $T\bar{T}$ and Other Solvable Deformations of Quantum Field Theories,” Simons Center for Geometry and Physics, April 2019. <i><math>T\bar{T}</math> and quantum mechanics</i> , “Advances in Quantum Field Theory,” CERN, April 2019. <i>Quantum mechanics in the ultraviolet</i> , Johns Hopkins seminar, February 2019. <i>Quantum mechanics in the ultraviolet</i> , Stanford seminar, February 2019. <i>Discussion on <math>T\bar{T}</math></i> , “Qubits on the Horizon: Aruba 2019,” Aruba, January 2019. <a href="#">Discussion on <math>T\bar{T}</math></a> , “Chaos and Order: from Strongly Correlated Systems to Black Holes,” KITP, November 2018. <i>Quantum gravity in a finite box</i> , Massachusetts Institute of Technology CTP seminar, October 2018. <i>Holography at finite cutoff with a <math>T^2</math> deformation</i> , McGill CHEP seminar, October 2018. <i>Higher form symmetries and the emergence of gravity</i> , University of Milano-Bicocca seminar, July 2018.

*Higher form symmetries and the emergence of gravity*, Columbia seminar, April 2018.

*Higher form symmetries and the emergence of gravity*, UC Berkeley seminar, March 2018.

*Parity in two-dimensional conformal field theory*, UC Santa Barbara seminar, January 2018.

[Gauge/Gravity duality and the Eguchi-Kawai mechanism](#), Simons Center for Geometry and Physics seminar, October 2017.

*Modular constraints in higher dimensions*, Cornell seminar, October 2017.

*Modular constraints in higher dimensions*, “Information in Quantum Field Theory,” Aspen workshop, June 2017.

*Gauge/Gravity duality and the Eguchi-Kawai mechanism*, ICTP seminar, Trieste, May 2017.

[Gauge/Gravity duality and the Eguchi-Kawai mechanism](#), “New Developments in AdS<sub>3</sub>/CFT<sub>2</sub> Holography,” Galileo Galilei Institute, April 2017.

*Gauge/Gravity duality and the Eguchi-Kawai mechanism*, Stanford colloquium, February 2017.

*Gauge/Gravity duality and the Eguchi-Kawai mechanism*, Harvard seminar, February 2017.

*Gauge/Gravity duality and the Eguchi-Kawai mechanism*, Caltech seminar, December 2016.

*Gauge/Gravity duality and the Eguchi-Kawai mechanism*, UCSB seminar, November 2016.

*Gauge/Gravity duality and the Eguchi-Kawai mechanism*, Southern California Strings Seminar, October 2016.

*Large-N quantum gauge theory and universality*, Amsterdam string theory seminar, October 2016.

*Modular invariance and black hole entropy*, “Quantum Aspects of Black Holes and its Recent Progress,” ICTP workshop in Yerevan, August 2016.

*Large-c methods in 2D CFT*, Fourth Summer School on High Energy Physics and Quantum Field Theory, Yerevan, August 2016.

[Timelike BKL singularities and chaos in AdS/CFT](#), “Singularities in general relativity and their quantum fate,” Warsaw, June 2016.

*Modular forms, new Cardy formulas, and black hole entropy*, “Strings in Greater Tokyo,” April 2016.

*Modular forms, new Cardy formulas, and black hole entropy*, IPMU seminar, Tokyo, April 2016.

*Holography for quantum cosmology*, 32nd Annual Pacific Coast Gravity Meeting, April 2016.

*Modular forms, new Cardy formulas, and black hole entropy*, Massachusetts Institute of Technology CTP seminar, March 2016.

*Modular invariance and black hole entropy*, UCLA TEP Seminar, November 2015.

*Modular invariance and black hole entropy*, UCSB Seminar, October 2015.

*Modular invariance and black hole entropy*, McGill CHEP Seminar, October 2015.

*Recent advances in dS/CFT*, “Cosmological Frontiers in Fundamental Physics,” Solvay Institutes, July 2015.

[Modular invariance and black hole entropy](#), “Quantum Gravity Foundations: UV to IR,” KITP, June 2015.

[Non-unitary CFT duals to de Sitter quantum gravity](#), “Lattice for Beyond the Standard Model Physics,” Lawrence Livermore National Laboratory, April 2015.

[A generalized Cardy formula for black hole microstates](#), UC Davis HEFTI seminar, April 2015.

[A generalized Cardy formula for black hole microstates](#), Texas A&M seminar, March 2015.

*dS<sub>4</sub> and dS<sub>3</sub>*, Caltech seminar, January 2015.

*Recent advances in dS/CFT*, USC seminar, November 2014.

*Recent advances in dS/CFT*, KITP seminar, October 2014.

*Recent advances in dS/CFT*, IPMU seminar, Tokyo, April 2014.

*Warped entanglement entropy*, IPMU seminar, Tokyo, April 2014.

*Covariant holographic entanglement entropy beyond AdS/CFT*, Stanford ITP seminar, April 2014.

*FRW cosmology*, NYU High Energy Physics Seminar, November 2013.

*Warped entanglement entropy*, “Quantum Aspects of Black Holes and its Recent Progress,” Yerevan State University, September 2013.

*Beyond minisuperspace in higher spin de Sitter cosmology*, Strings 2013 Gong Show, June 2013.

*New CMB signatures of the string landscape*, UCLA TEP Seminar, June 2013.

*New CMB signatures of the string landscape*, Stanford ITP Seminar, February 2013.

*Multicentered black holes as glassy systems*, “Out of Equilibrium Statistical Physics and String Theory,” University of Michigan, October 2012.

*Hyperscaling violation from holography*, “Generalized Geometry, String Theory, and Deformations,” Harvard University, August 2012.

*Multicentered black holes as glassy systems*, “Cosmology and Complexity,” Greece, June 2012.

TEACHING  
EXPERIENCE

**Stanford University**

*Teaching Assistant – Undergraduate/Graduate Physics Courses*     **September 2008 - May 2014**

Served as the primary teaching assistant for fifteen physics courses, spanning lower division, upper division, and graduate classes. Duties included holding a lecture session and office hours, writing and grading homework, writing and grading exams, and helping develop the curricula.

**The Princeton Review**

*Instructor – MCAT Physics*     **January 2007 - March 2011**

Responsible for running the physics portion of the MCAT preparation course, which required lecturing on all physics topics expected to appear on the exam and holding office hours.

**American University of Armenia**

*Instructor – Computer programming*     **June 2008 - August 2008**

Spent a summer in Armenia teaching introductory computer programming and software.

**San Quentin Prison University Project**

*Tutor – Introductory mathematics and special topics*     **January 2008 - May 2008**

Tutored inmates in mathematics as part of a volunteer program that allowed them to earn an A.A. degree while incarcerated. The program operated as an extension of Patten University.

ACTIVITIES

**SLAC Users Organization Washington D.C. lobbying trip**

*Stanford ITP representative*     **Spring 2011/2012**

Traveled twice to Washington, D.C. to meet with members of both houses of Congress and DOE, NSF, and NIST to explain our work in high energy physics and request sustained federal funding.

**Stanford Physics Graduate Studies Committee**

*Student Representative*

**September 2008 - June 2010**

Student member of the committee in charge of investigating all aspects of graduate study (e.g. thesis requirements, qualification exams, funding structure) and proposing/making changes as necessary.

LANGUAGES

English and Armenian, elementary Spanish