

KITP Conference: Order from Chaos

(Dec 10-14, 2018)

Coordinators: **Xiao-Liang Qi, Subir Sachdev, Stephen Shenker, and Douglas Stanford**

Monday, Dec 10, 2018

Session Chair: stephen Shenker (Stanford)

8:50am	Lars Bildsten (KITP Director)	Welcome
9:00am	Leonard Susskind (Stanford)	Size, Momentum and Scrambling
10:00am	Shiraz Minwalla (TIFR Mumbai)	The Exact Quantum Effective Potential for Large N Matter Chern Theories
11:00am		Morning Break
11:30am	Netta Engelhardt (Princeton)	Coarse Graining = Area Laws
12:30pm		Lunch Break

Talks are 40 min + 20 min discussion

2:00pm	Kenke Xu (UCSB)	Candidate theory for the Strange Metal Phase based on SYK Physics
3:00pm	Erez Berg (Weizmann)	Bad metals and quantum chaos
4:00pm		Afternoon Break
4:30pm		SHUTTLE TO BWSCI

Tuesday, Dec 11, 2018

Talks are 40 min + 20 min discussion, Chair: Spenta Wadia (ICTS)

9:00am	Alexei Kitaev (Caltech)	On the Relation Between the Magnitude and Exponent of OTOCs
10:00am	Josephine Suh (Caltech)	The Quantum Mechanics of Jackiw-Teitelboim Gravity
11:00am		Morning Break
11:30am	Jennifer Lin (IAS)	Entanglement Entropy in Jackiw-Teitelboim Gravity
12:30pm		Lunch Break

Talks are 40 min + 20 min discussion, Chair: Subir Sachdev (Harvard)

2:00pm Ehud Altman (UC Berkeley) Universal Operator Growth and Emergent
Dissipation in Hamiltonian Dynamics
3:00pm Brian Swingle (Maryland) The Simplicity of Thermal States
4:00pm **Afternoon Break**

4:30pm Monika Schleier-Smith (Stanford) Quantum Spin Dynamics with Non-Local
Interactions
5:30pm **RECEPTION-KITP COURTYARD**

6:00pm **SPECIAL EVENTS DINNER-KITP COURTYARD**

8:00pm **SHUTTLE TO BWSCI**

Wednesday, Dec 12, 2018

Talks are 40 min + 20 min discussion, Chair: Veronika Hubeny (UC Davis)

9:00am Daniel Jafferis (Harvard) Stringy ER=EPR
10:00am Xi Dong (UCSB) Flat Entanglement Spectra in Fixed-Area
States of Quantum Gravity
11:00am **Morning Break**

11:30am Juan Maldacena (IAS) Towards the symmetries of the near
horizon region of black holes
12:30pm **Lunch Break**

2:00pm **FREE AFTERNOON-Shuttle Available to BWSCI**

Thursday, Dec 13, 2018

Talks are 40 min + 20 min discussion, Chair: Jeff Murugan (U Cape Town)

9:00am Igor Klebanov (Princeton) Instability of the Conformal Phase in Some
Tensor and SYK Models
10:30am Grigory Tarnopolsky (Harvard) Remarks on the Complex SYK Model
11:00am **Morning Break**

11:30am David Simmons-Duffin (Caltech) Shocks and Superconvergence
12:30pm **Lunch Break**

Talks are 40 min + 20 min discussion, Chair: Cynthia Keeler (ASU)

2:00pm Jacobus Verbaarschot Spectral Properties of the SYK Model
(Stony Brook)

3:00pm Alexander Altland (U. Cologne) Nonlinear Sigma-Model Approach to the
(deformed) SYK Model

4:00pm **Afternoon Break**

4:30pm Ahmed Almheiri (IAS) Fluidity of the AdS/CFT Dictionary

5:30pm **RECEPTION-KITP COURTYARD**

6:00pm **SPECIAL EVENTS DINNER-KITP COURTYARD**

8:00pm **SHUTTLE TO BWSCI**

Friday, Dec 14, 2018

Talks are 40 min + 20 min discussion, Chair: Xiaoliang Qi (Stanford)

9:00am Edward Witten (IAS) Open Strings on the Rindler Horizon

10:00am Micha Berkooz (Weizmann) Towards a Full Solution of the Large N
Double Scaled SYK Model

11:00am **Morning Break**

11:30am Vladimir Rosenhaus (IAS) SYK, Harmonic Analysis, and Multipoint
Conformal Blocks

12:30pm **Lunch Break**

Talks are 40 min + 20 min discussion, Chair: Douglas Stanford (IAS)

2:00pm Dionysios Anninos (King's Coll) (A)dS₂

3:00pm Herman Verlinde (Princeton) Comments about TTbar and SYK

4:00pm **Afternoon Break**

4:30pm **CONFERENCE END SHUTTLE TO BWSCI *Also available to SB Airport and
SB Airbus, Goleta location. (See Registration Desk BEFORE FRIDAY to sign
up.)**