

**3rd French Russian Conference on Random Geometry and
Physics: The Sachdev-Ye-Kitaev Model and Related Topics
Steklov Mathematical Institute, Moscow, 3-7 June 2019**

| | <i>Monday</i> | <i>Tuesday</i> | <i>Wednesday</i> | <i>Thursday</i> | <i>Friday</i> |
|--------------|-----------------------------|--------------------------|------------------------------|----------------------------|----------------|
| 10:00-10:30 | Volovich | Rivasseau | Aref'eva | Verbaarschot | Morozov |
| 10.30-11.00 | Sonner | Toriumi | Tezuka | Gorsky | Spiridonov |
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| 11:10-11:40 | Aron | Vasiliev | Berkooz | Krajewski | Stukopin |
| 11:40-12:10 | Suzuki | Carrozza | Khramtsov | Evnin | Katanaev |
| 12.10-12:40 | Coffee | Coffee | Coffee | Coffee | Closing |
| 12:40-13:10 | Dymarsky | Belokurov | Belavin | Zarembo | |
| 13:10-13:40 | Nechaev | Vignes-Tourneret | Jafferis | A. Orlov | |
| 13:40-14:10 | Metsaev | | Lunch | Sakbaev | |
| 14:10-15:30 | Lunch | Lunch | Free | Lunch | |
| 15:30-15:50 | Ageev | Sazonov | Free | Golubtsova | |
| 15:50-16.10 | Inozemcev | Harribey | Free | Patrushev | |
| 16:10- 16:30 | Pavlenko | Delporte | Free | Zenkevich | |
| 16:30-17:00 | Coffee | Coffee | Free | Coffee | |
| 17:00-17:40 | Klebanov (video talk) | Eichhorn (video talk) | Free | Mayburov (17.00- 17.20) | |
| 17.40-18.10 | Tarnopolsky (video talk) | Discussion | Free | Discussion | |
| 18:10-21:30 | Wellcome party | | Conference Dinner | | |

Program of 3rd French-Russian Conference on Random Geometry and Physics: Sachdev-Ye-Kitaev Model and Related Topics

Monday, June 3rd

Chair: Rivasseau

- 9.30 — 9.50 Registration of participants
- 9.50 — 10.00 Irina Aref`eva (Steklov Mathematical Institute of Russian Academy of Sciences);
Vincent Rivasseau (professor, University Paris-Sud XI, Orsay)
Opening
- 10.00 — 10.30 Igor Volovich (Steklov Mathematical Institute of Russian Academy of Sciences);
Random matrices, SYK and moduli of Riemann surfaces
- 10.30 — 11.00 Julian Sonner (University of Geneva)
A many-body perspective on black-hole micro states
- 11.00 — 11.10 Short break

Chair: Volovich

- 11.10 — 11.40 Camille Aron (Ecole Normale Supérieure, Laboratoire de Physique Théorique, Paris)
(Non) equilibrium dynamics: a (broken) symmetry
- 11.40 — 12.10 Kenta Suzuki (CPhT, Ecole Polytechnique, Paris)
Emergence of Space-Time in the SYK Model
- 12.10 — 12.40 Coffee break

Chair: Aron

- 12.40 — 13.10 Sergei Nechaev (Poncelet Laboratory)
Phyllotaxis and Lifshitz tails in 1D Anderson localization: what is common?
- 13.10 — 13.40 Anatoly Dymarsky (University of Kentucky & Skoltech)
Quantum KdV hierarchy in 2d CFTs
- 13.40 — 14.10 Ruslan Metsaev (Lebedev Physical Institute of Russian Academy of Sciences)
Continuous-spin field in AdS space and conformal algebra representations

14.10 — 15.30 Lunch

Chair: Dymarsky

15.30 — 15.50 Dmitry Ageev (Steklov Mathematical Institute of Russian Academy of Sciences)
Momentum/operator size holographic correspondence and applications

15.50 — 16.10 Oleg Inozemcev (Steklov Mathematical Institute of Russian Academy of Sciences)
Operative Formulation of the Eigenstate Thermalization Hypothesis

16.10 — 16.30 Kirill Pavlenko (Skoltech)
Generalized Eigenstate Thermalization in 2d CFTs

16.30 — 17.00 Coffee break

Chair: Metsaev

17.00 — 17.40 Video talk:
Igor Klebanov (Princeton University)
Dynamics of Tensor and SYK Models

17.40 — 18.10 Video talk:
Grigory Tarnopolsky (Harvard University)
Remarks on the Complex SYK model

Tuesday, June 4th

Chair: Arefeva

10.00 — 10.30 Vincent Rivasseau (University Paris-Sud XI, Orsay)
Random tensors, a flexible tool for geometry and physics

10.30 — 11.00 Reiko Toriumi (Okinawa Institute of Science and Technology)
Perturbative Tensor Field Theories

11.00 — 11.10 Short break

11.10 — 11.40 Mikhail Vasiliev (Lebedev Physical Institute of Russian Academy of Sciences)
Present status of higher-spin theory

11.40 — 12.10 Sylvain Carrozza (Perimeter Institute for Theoretical Physics)

Large N limit of irreducible tensor models

12.10 — 12.40

Coffee break

Chair: Vasiliev

12.40 — 13.10

Vladimir Belokurov (Moscow State University)
Functional integrals In Schwarzian theory

13.10 — 13.40

Fabien Vignes-Tourneret (Université de Lyon)
Constructive Tensor Field Theory through an example

13.40 — 15.30

Lunch

Chair: Toriumi

15.30 — 15.50

Vasily Sazonov (University of Graz)
Large-N dynamics of the spiked tensor model with random initial conditions

15.50 — 16.10

Sabine Harribey (CPhT, Ecole Polytechnique, Paris)
Line of fixed points in a bosonic tensor model

16.10 — 16.30

Nicolas Delporte (University Paris-Sud XI, Orsay)
Perturbative QFT on a Random Tree

16.30 — 17.00

Coffee break

17.00 — 17.40

Video talk:
Astrid Eichhorn (CP3-Origins, University of Southern Denmark)
Tensor models for quantum gravity from a functional Renormalization Group perspective

Wednesday, June 5th

Chair: Sonner

10.00 — 10.30

Irina Aref`eva (Steklov Mathematical Institute of Russian Academy of Sciences);
Replica-nondiagonal solutions in the SYK model

10.30 — 11.00

Masaki Tezuka (Kyoto University)
Characterization of chaotic dynamics in quantum systems

11.00 — 11.10

Short break

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| 11.10 — 11.40 | Micha Berkooz (Weizmann Institute of Science) <i>Towards a full solution of the large N double scaled SYK model</i> |
| 11.40 — 12.10 | Mikhail Khramtsov (Steklov Mathematical Institute of Russian Academy of Sciences); <i>Probing nonperturbative structures in gravity with SYK</i> |
| 12.10 — 12.40 | Coffee break |
| Chair: Tezuka | |
| 12.40 — 13.10 | Alexander Belavin (Landau Institute of Theoretical Physics) <i>JKLMR conjecture and Batyrevs polytopes</i> |
| 13.10 — 13.40 | Daniel Jafferis (Harvard University) <i>Entanglement entropy in 2d gravity</i> |
| 13.40 — 14.30 | Lunch |
| 14.50 — 20.00 | Excursion |
| 20.00 — 23.00 | Conference dinner |

Thursday, June 6th

Chair: Berkooz

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| 10.00 — 10.30 | Jacobus Verbaarschot (Stony Brook University) <i>Quantum Chaos in a (Coupled) Sachdev-Ye-Kitaev Model</i> |
| 10.30 — 11.00 | Alexander Gorsky (IITP RAS & MIPT) <i>Resummation of instantons near poles and AdS3 geometry</i> |
| 11.00 — 11.10 | Short break |
| 11.10 — 11.40 | Thomas Krajewski (Aix-Marseille Université) <i>Non Gaussian average in the Sachdev-Ye Kitaev model</i> |
| 11.40 — 12.10 | Oleg Evnin (Chulalongkorn University, Bangkok & Solvay Institute, Brussels) <i>Quantum resonant systems</i> |
| 12.10 — 12.40 | Coffee break |
| Chair: Jafferis | |
| 12.40 — 13.10 | Konstantin Zarembo (NORDITA Institute, Stockholm) |

N=2 super-Yang-Mills theory: from holography to random matrices*

13.10 — 13.40

Aleksandr Orlov (NRU Higher School of Economics)
Matrix models for Hurwitz numbers for Klein surfaces

13.40 — 14.10

Vsevolod Sakbaev (Moscow Institute of Physics and Technology)
Limit distributions of compositions of independent random semigroups of linear operators

14.10 — 15.30

Lunch

Chair: Zarembo

15.30 — 15.50

Anastasia Golubtsova (BLTP, Joint Institute for Nuclear Research)
On integrable holographic RG flows with one and several running couplings

15.50 — 16.10

Alexander Patrushev (Bauman Moscow State Technical University)
Entanglement entropy in strongly correlated systems with phase transition and anisotropy

16.10 — 16.30

Yegor Zenkevich (Milano Bicocca University & ITEP)
3d gauge theories, matrix models and superalgebras

16.30 — 17.00

Coffee break

Chair: Ageev

17.00 — 17.20

Sergey Mayburov (Lebedev Physical Institute of Russian Academy of Sciences)
Nuclear decay oscillations and bilocal quantum gravity

Friday, June 7th

Chair: Verbaarschot

10.00 — 10.30

Andrey Morozov (IITP RAS & ITEP)
Eigenvalue hypothesis and 6j-symbol symmetries

10.30 — 11.00

Vyacheslav Spiridonov (BLTP, Joint Institute for Nuclear Research)
4d Superconformal indices and 2d statistical mechanics

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| 11.00 — 11.10 | Short break |
| 11.10 — 11.40 | Vladimir Stukopin (Don State Technical University & MIPT) <i>On representations of Yangians and Quantum Loop Superalgebras</i> |
| 11.40 — 12.10 | Mikhail Katanaev (Steklov Mathematical Institute of Russian Academy of Sciences) <i>Chern-Simons action in the geometric theory of defects</i> |
| 12.10 — 12.40 | Closing |