

**YITP Workshop**  
**“Developments in String Theory and Quantum Field Theory”**

Panasonic Hall, Yukawa Institute for Theoretical Physics,  
November 9 - 13, 2015

Program

- The length of the talk is denoted in the parenthesis just after the title of the talk (unit:minute).
- Invited talks including overviews are marked with \*.
- At the beginning of each poster session, there are 1-minute talks by the presenters of the posters.
- The live broadcast of the talks is available on the workshop website:  
<http://www2.yukawa.kyoto-u.ac.jp/~qft.web>

November 9 (Monday)

---

**Afternoon session 1** (13:00-14:10)

K. Tsumura (Kyoto U.)                      Prospects of LHC Run II (60)\*

————— Break (30 min) —————

**Afternoon session 2** (14:40-15:55)

S. Mizoguchi (KEK)                      Anomaly-free Multiple Singularity Enhancement in F-theory (20)  
Y. Sumitomo (KEK)                      De Sitter vacua from a D-term generated racetrack potential in hypersur-  
face Calabi-Yau compactifications (20)  
S. Ichinose (U. Shizuoka)                      CMB Power Spectrum in the Background Field Formalism (20)

————— Break (30 min) —————

**Afternoon session 3** (16:25 - 17:40)

S. Kawamoto (Chung Yuan U.)                      Size scaling of self gravitating polymers and strings (20)  
S. Sugishita (Kyoto U.)                      Random volumes from matrices (20)  
T. Kuroki (Kagawa Coll. Tech.)                      Large order behavior and instanton action in supersymmetric matrix model  
(20)

---

## November 10 (Tuesday)

---

### Morning session 1 (9:00 - 10:10)

- A. Buchel (U. Western Ontario) Gravitational instability in AdS and thermalization of dual gauge theories (60)\*

————— Break (30 min) —————

### Morning session 2 (10:40 - 11:30)

- K. Murata (Keio U.) Electric field quench and turbulent meson condensation in AdS/CFT (20)  
D. Kawai (Kyoto U.) Chaotic strings in a near Penrose limit of  $\text{AdS}_5 \times \text{T}^{1,1}$  (20)

————— Break (15 min) —————

### Morning session 3 (11:45 - 12:35)

- M. Ishihara (Tohoku U.) A Holographic Realization of Ferromagnets (20)  
M. Fujita (U. Kentucky) Effective hopping in a holographic Bose-Hubbard model (20)

————— Lunch (100 min) —————

### Afternoon session 1 (14:15 - 15:05)

- C. Hasegawa (Rikkyo U.) Extremal Surfaces in Asymptotic AdS Black Hole and Holographic Entanglement Entropy (20)  
S. Ohya (Nihon U.) Recurrence Relations for Finite-Temperature Correlators via  $\text{AdS}_2/\text{CFT}_1$  (20)

————— Break (20 min) —————

### Afternoon session 2 (Poster session 1) (15:25 - 17:55)

- Y. Amari (Tokyo U. of Science) Quantized states of vortex in a  $\text{CP}^2$  Skyrme-Faddeev type model  
M. Fukuda (U. Tokyo)  $\text{SH}^c$  Realization of Minimal Model CFT: Triality, Poset and Burge Condition
- M. Hamanaka (Nagoya U.) Noncommutative Instantons and Reciprocity  
A. Kasai (Kyushu U.) Decay of False Vacuum via Fuzzy Monopole in String Theory  
M. Miyaji (Yukawa Inst.) Boundary states as holographic duals of trivial spacetimes  
H. Mori (Osaka U.) Surface defects in class  $\mathcal{S}_k$  and an elliptic algebra  
T. Nishimura (U. Tokyo) Novel construction and monodromy relation for three-point functions at weak coupling
- J. Sakamoto (Kyoto U.) Yang-Baxter deformations of Minkowski spacetime  
Y. Sato (Kyoto U.) Entanglement entropy in the dS/CFT correspondence  
T. Takezaki (U. Tokyo)  $A_\infty$  structure from the Berkovits formulation of open superstring field theory
- S. Terashima (Yukawa Inst.) Exact Computations in Confining Phase using SUSY Localization
-

November 11 (Wednesday)

---

**Morning session 1** (9:00 - 10:10)

D. Gang (Kavli IPMU) Supersymmetric defects in 3d-3d correspondence (60)\*

————— Break (30 min) —————

**Morning session 2** (10:40 - 11:55)

A. Tanaka (RIKEN)  $RP^2$  index and its application (20)  
Y. Sasai (Meiji Gakuin U.) On the Coulomb branch localization for 1d gauged linear sigma model (20)  
Y. Yoshida (KIAS) Gauged linear sigma models and Calabi-Yau 3-folds in Grassmannians (20)

————— Break (15 min) —————

**Morning session 3** (12:10 - 13:00)

T. Suyama (Osaka City U.) Instanton Effects in Orientifold ABJM Theory (20)  
T. Nosaka (Yukawa Inst.) Exact large  $N$  partition function of non-conformally deformed ABJM theory (20)

————— Lunch (75 min) —————

**Afternoon session 1** (14:15 - 15:05)

M. Honda (Weizmann Inst.) The Interpolating Function (20)  
K. Hotta (Hokkaido U.) Thermal Vacuum State for Multiple Closed Superstrings in the Framework of Thermo Field Dynamics (20)

————— Break (20 min) —————

**Afternoon session 2 (Poster session 2)** (15:25 - 17:55)

S. Kanno (Tokyo Tech) 4D  $\mathcal{N} = 1$  gauge theories from M5-branes on D-type singularity  
Tetsuji Kimura (Keio U.) Improved GLSM for exotic five-brane  
T. Kojita (Kyoto Sangyo U.) Defects in open string field theory  
H. Kyono (Kyoto U.) Lax pair on Yang-Baxter deformed backgrounds  
M. Nishida (Osaka U.) Entanglement negativity of a free massless Dirac fermion on 2d torus  
K. Shimizu (Yukawa Inst.) Large  $N$  behavior of M2-M5 branes system  
H. Shu (Tokyo Tech) Modified affine B2 Toda equations and  $AdS_4$  minimal surface via ODE/IM correspondence  
K. Sugita (Nihon U.) Singular Gauge Transformation and the Ertler-Maccafèri Solution in Bosonic Open SFT  
K. Takesue (Kitasato U.) ADHM like construction in  $R^8$   
K. Watanabe (Yukawa Inst.) Quantum Entanglement of Excited States by Heavy Local Operators in Large- $c$  2d CFT at Finite Temperature  
N. Watanabe (Kavli IPMU) On skein relations in class  $\mathcal{S}$  theories

---

## November 12 (Thursday)

---

### Morning session 1 (9:00 - 10:10)

L. Rastelli (Stony Brook U.)      The (2, 0) Superconformal Bootstrap (60)\*

————— Break (30 min) —————

### Morning session 2 (10:40 - 11:55)

K. Maruyoshi (Imperial London)      Chiral theories of class  $\mathcal{S}_\Gamma$  (20)  
H. Shimizu (U. Tokyo)      6d  $\mathcal{N} = (1, 0)$  theories on  $T^2$  and class  $\mathcal{S}$  theories (20)  
T. Nishinaka (Yukawa Inst.)      On the Superconformal Index of Argyres-Douglas Theories (20)

————— Break (15 min) —————

### Morning session 3 (12:10 - 13:00)

M. Taki (RIKEN)      Tao Probing the End of the World 1 (20)  
F. Yagi (KIAS)      Tao Probing the End of the World 2 (20)

————— Lunch (75 min) —————

### Afternoon session 1 (14:15 - 15:05)

H. Muraki (U. Tsukuba)      Gravity theory on Poisson manifold with R-flux (20)  
M. A. Heller (Tohoku U.)      R-flux string sigma model and algebroid duality on Lie 3-algebroids (20)

————— Break (20 min) —————

### Afternoon session 2 (15:25-16:40)

S. Kinoshita (Chuo U.)      Conic D-branes (20)  
Taro Kimura (Keio U.)      Band spectrum as D-brane shape (20)  
T. Fujimori (Keio U.)      Instantons in Lifshitz field theories (20)

————— Break (15 min) —————

### Afternoon session 3 (16:55-18:10)

Y. Okawa (U. Tokyo)      Complete action of open superstring field theory (20)  
R. Meyer (Stony Brook U.)      Double Field Theory and Non-Relativistic String Theory (20)  
Y. Sakatani (Seoul National U.)       $O(D, D)$  Covariant Noether Currents and Global Charges in Double Field Theory (20)

---

November 13 (Friday)

---

**Morning session 1** (9:00 - 10:10)

S. Komatsu (Perimeter Inst.)      Integrable Bootstrap for Structure Constants in N=4 SYM (60)\*

————— Break (30 min) —————

**Morning session 2** (10:40 - 11:30)

T. Kameyama (Kyoto U.)      Minimal surfaces in  $q$ -deformed  $\text{AdS}_5 \times \text{S}^5$  (20)

Y. Kimura (Okayama Inst.)      Negative anomalous dimensions in  $\mathcal{N} = 4$  SYM (20)

————— Break (15 min) —————

**Morning session 3** (11:45 - 13:00)

T. Matsumoto (U. Tsukuba)      New construction method of matrix regularization using coherent states (20)

H. Shimada (Okayama Inst.)      On membrane interactions and a three-dimensional analog of Riemann surfaces (20)

G. Ishiki (U. Tsukuba)      Spherical M5-branes from the plane wave matrix model (20)

---

End of Workshop