



# KEK Theory workshop 2020

## Tuesday, December 15, 2020

Invited talks: "Introduction to higher form symmetries", Yoshimasa Hidaka (KEK) (9:05 AM - 10:35 AM)

-Conveners: Chair: Ryo Yokokura

time	[id] title	presenter
9:05 AM	[46] Introduction to higher form symmetries	Prof. HIDAHA, Yoshimasa

Invited talks: "Symmetry protected topological phases and generalized (co)homology theory", Ken Shiozaki (YITP) (10:50 AM - 12:20 PM)

-Conveners: Chair: Ryo Yokokura

time	[id] title	presenter
10:50 AM	[48] Symmetry protected topological phases and generalized (co)homology theory	Prof. SHIOZAKI, Ken

Invited talks: "Higher-form symmetries and 3-group in axion electrodynamics", Ryo Yokokura (KEK) (2:30 PM - 3:30 PM)

-Conveners: Chair: Naoki Yamamoto

time	[id] title	presenter
2:30 PM	[49] Higher-form symmetries and 3-group in axion electrodynamics	Dr YOKOKURA, Ryo

Invited talks: "Higher groups and topological phases of matter", Apoorv Tiwari (U. of Zurich) (5:00 PM - 5:30 PM)

-Conveners: Chair: Ryo Yokokura

time	[id] title	presenter
5:00 PM	[50] Higher groups and topological phases of matter	Dr TIWARI, Apoorv

# Wednesday, December 16, 2020

Invited talks: "Dense QCD matter tackled by experiments, observations, and theory", Akira Ohnishi (YITP) (9:00 AM - 10:00 AM)

-Conveners: Chair: Yoshio Kikukawa

time	[id] title	presenter
9:00AM	[43] Dense QCD matter tackled by experiments, observations, and theory	Prof. OHNISHI, Akira

Invited talks: "Exploring the QCD phase diagram with holographic models", Kouji Kashiwa (Fukuoka Inst. of Tech.) (10:20 AM - 11:00 AM)

-Conveners: Chair: Yoshio Kikukawa

time	[id] title	presenter
10:20AM	[44] Exploring the QCD phase diagram with holographic models	Prof. KASHIWA, Kouji

Invited talks: "Color superconductivity in lattice QCD", Jun Nishimura (KEK) (11:20 AM - 12:00 PM)

-Conveners: Chair: Yoshio Kikukawa

time	[id] title	presenter
11:20AM	[45] Color superconductivity in lattice QCD	Prof. NISHIMURA, Jun

# Thursday, December 17, 2020

Invited talks: "Universes as Bigdata: from Geometry, to Physics, to Machine-Learning", Yang-Hui He (Merton Coll., U. of Oxford) (9:00 AM - 10:00 AM)

-Conveners: Chair: Koji Hashimoto

time	[id] title	presenter
9:00AM	[40] Universes as Bigdata: from Geometry, to Physics, to Machine-Learning	Prof. HE, Yang-Hui

Invited talks: "The Topology of Data: from String Theory to Cosmology to Phases of Matter", Gary Shiu (U. of Wisconsin-Madison) (10:15 AM - 11:15 AM)

-Conveners: Chair: Koji Hashimoto

time	[id] title	presenter
10:15AM	[41] The Topology of Data: from String Theory to Cosmology to Phases of Matter	Prof. SHIU, Gary

Invited talks: "Hidden structures in the landscape of heterotic line bundle models", Hajime Otsuka (KEK) (11:30 AM - 12:15 PM)

-Conveners: Chair: Koji Hashimoto

time	[id] title	presenter
11:30AM	[42] Hidden structures in the landscape of heterotic line bundle models	Dr OTSUKA, Hajime

# Friday, December 18, 2020

## Invited talks: "Equivalence Principle, Decoupling Principle, and Information Loss Paradox", Pei-Ming Ho (NTU)

(9:00 AM - 10:00 AM)

-Conveners: Chair: Tamiaki Yoneya

time	[id] title	presenter
9:00AM	[36] Equivalence Principle, Decoupling Principle, and Information Loss Paradox	Prof. HO, Pei-Ming

## Invited talks: "Black hole as a quantum field configuration", Yuki Yokokura (RIKEN) (10:30 AM - 11:30 AM)

-Conveners: Chair: Nobuyoshi Ohta

time	[id] title	presenter
10:30AM	[57] Black hole as a quantum field configuration	Dr YOKOKURA, Yuki

## Invited talks: "Entanglement between two disjoint universes", Tomonori Ugajin (YITP) (2:00 PM - 3:00 PM)

-Conveners: Chair: Takeshi Morita

time	[id] title	presenter
2:00PM	[38] Entanglement between two disjoint universes	Dr UGAJIN, Tomonori

## Invited talks: "What microstate geometries tell us", Masaki Shigemori (Nagoya U. & YITP) (3:30 PM - 4:30 PM)

-Conveners: Chair: Yoshifumi Hyakutake

time	[id] title	presenter
3:30PM	[57] What microstate geometries tell us	Prof. SHIGEMORI, Masaki