



# HPNP2023 - The 6th International Workshop on "Higgs as a Probe of New Physics 2023"

## Monday 5 June 2023

### Plenary: Plenary 1 - Nambu Yoichiro Hall (10:00 - 11:00)

time	[id] title	presenter
10:00	[102] Higgs couplings to fermions	HAN, Tao
10:30	[11] Symmetries of the 2HDM and Beyond	Prof. PILAFTSIS, Apostolos

### Plenary: Plenary 2 - Nambu Yoichiro Hall (11:30 - 13:00)

time	[id] title	presenter
11:30	[17] General review of Higgs properties at ATLAS	GANGULY, Sanmay
12:00	[16] The newest Higgs results at CMS	SUN, Xiaohu
12:30	[20] A Classifier for VBF and GGF Higgs Productions with Deep Learning	Prof. CHIANG, Cheng-Wei

### Plenary: Plenary 3 - Nambu Yoichiro Hall (14:30 - 16:00)

time	[id] title	presenter
14:30	[46] Signals of new heavy scalars in the flavor-aligned 2HDM	HABER, Howard
15:00	[42] Exotic but efficient channels to probe the fermiophobic Higgs boson in the type-1 2HDM	Prof. SONG, Jeonghyeon
15:15	[87] Double Aligned two Higgs Doublet Models at the LHC	Prof. TAKEUCHI, Michihisa
15:30	[65] Exploring Wrong Sign Scenarios in the Yukawa-Aligned 2HDM	Dr YAGYU, Kei
15:45	[39] Precise predictions for the trilinear Higgs coupling in arbitrary models	BRAATHEN, Johannes

### Plenary: Plenary 4 - Nambu Yoichiro Hall (16:30 - 17:30)

time	[id] title	presenter
16:30	[13] Pragmatic extensions of the Standard Model	GRZADKOWSKI, Bohdan
17:00	[21] GOOFy Symmetries of the Two Higgs Doublet Model	Prof. FERREIRA, Pedro

## Tuesday 6 June 2023

### Plenary: Plenary 5 - Nambu Yoichiro Hall (09:00 - 11:00)

time	[id] title	presenter
09:00	[94] Double Higgs Production in Composite 2HDM	DE CURTIS, Stefania
09:30	[86] Di-HPNP	MORETTI, Stefano
10:00	[73] Precise predictions for Higgs pair productions and decays	Prof. WANG, Jian
10:15	[70] Benchmarking Di-Higgs Production in Various Extended Higgs Sector Models	Dr AZEVEDO, Duarte
10:30	[96] More realistic test on the Higgs EFT	TOBIOKA, Kohsaku
10:45	[79] Coupling Sum Rules and Oblique Corrections in Gauge-Higgs Unification	HOSOTANI, Yutaka

### Plenary: Plenary 6 - Nambu Yoichiro Hall (14:30 - 16:00)

time	[id] title	presenter
14:30	[93] Recent topics on cosmology with primordial black holes and their implications for particle physics	KOHRI, Kazunori
15:00	[33] Primordial black holes from the boiling Universe	XIE, Ke-Pan
15:15	[51] Probing first-order electroweak phase transition via primordial black holes	TANAKA, Masanori
15:30	[92] Quartic Gradient Flow	Dr JINNO, Ryusuke
15:45	[71] Cosmological Phase Transitions in Composite Higgs Models	FUJIKURA, Kohei

## Wednesday 7 June 2023

### Plenary: Plenary 7 - Nambu Yoichiro Hall (09:00 - 11:00)

time	[id] title	presenter
09:00	[12] BSM Higgs and an Electroweak Phase Transition: Recent Developments	RAMSEY-MUSOLF, Michael
09:30	[34] FOEWPT, THCs and GWs in the 2HDM	HEINEMEYER, Sven
10:00	[15] Two aspects of Higgs Pair Production: Precision and Relation to Electroweak Baryogenesis	MÜHLEITNER, Milada Margarete
10:30	[35] Shedding light on the electroweak phase transition from exotic Higgs boson decays at the lifetime frontiers	LIU, Wei
10:45	[43] Electroweak Baryogenesis in two Higgs doublet model with alignment scenario	MURA, Yushi

### Plenary: Plenary 8 - Nambu Yoichiro Hall (11:30 - 13:00)

time	[id] title	presenter
11:30	[50] Higgs physics with ILC	Dr TIAN, Junping
12:00	[84] Exploring new physics by comprehensive studies of loop corrected decays of various Higgs bosons	KIKUCHI, Mariko
12:30	[104] Brief Introduction to Muon Colliders	HAN, Tao

# Thursday 8 June 2023

## Plenary: Plenary 9 - Nambu Yoichiro Hall (09:00 - 11:00)

time	[id] title	presenter
09:00	[85] Decay of the Mediator Particle at Threshold	Dr MATSUMOTO, Shigeki
09:30	[14] Electroweak corrections to Scalar Dark Matter Direct Detection	SANTOS, Rui
10:00	[60] Lepton flavor violation and DM constraints in a radiative seesaw model	SETO, Osamu
10:15	[40] Light lepton portal dark matter meets the LHC	OMURA, Yuji
10:30	[47] Thermal production of bosonic dark matter and Bose-enhancement	YIN, Wen
10:45	[59] Positivity Bounds on Higgs-Portal Dark Matter	Dr YAMASHITA, Kimiko

## Plenary: Plenary 10 - Nambu Yoichiro Hall (11:30 - 13:00)

time	[id] title	presenter
11:30	[18] Detecting Hidden Photon Dark Matter via the Excitation of Qubits	MOROI, Takeo
12:00	[67] Search for lepton flavor violation at FASER	SHIMOMURA, Takashi
12:15	[72] Large muon EDM in two Higgs doublet model and its extension	SHIGEKAMI, Yoshihiro
12:30	[62] Large SU(2) multiplet scalars providing sizable muon g-2 and its phenomenology	Prof. NOMURA, Takaaki
12:45	[56] Muon ( $g - 2$ ) and Thermal WIMP DM in U(1) $L_\mu - L_\tau$ Models	Mr KIM, Jongkuk

## Friday 9 June 2023

### **Plenary: Plenary 11 - Nambu Yoichiro Hall (09:00 - 11:00)**

time	[id] title	presenter
09:00	[37] A Theory Vision for the Higgs Boson	LOW, Ian
09:30	[61] Constraining CP4 3HDM with meson oscillations	Prof. IVANOV, Igor
10:00	[82] Measuring the QCD color structure of the Higgs particle	Prof. PARK, Myeonghun
10:15	[38] Exposing new scalars hiding behind the Higgs boson	ZHANG, Hao
10:30	[74] Phenomenology of anomaly-free axion in three Higgs doublet model	SAKURAI, Kodai
10:45	[48] Leading two-loop corrections to the Higgs di-photon decay in the inert doublet model	AIKO, Masashi

### **Plenary: Plenary 12 - Nambu Yoichiro Hall (11:30 - 13:00)**

time	[id] title	presenter
11:30	[76] On the Weyl gravity extension of Higgs inflation	LEE, Hyun Min
12:00	[55] Leptogenesis from a CP-violating inflation	Dr KEUS, Venus
12:30	[58] Boltzmann or Bogoliubov? A Case of Gravitational Higgs Production	KANETA, Kunio
12:45	[99] Polychronic Tunneling	SHOJI, Yutaro

### **Plenary: Plenary 13 - Nambu Yoichiro Hall (14:30 - 15:45)**

time	[id] title	presenter
14:30	[44] muTRISTAN	KITANO, Ryuichiro
15:00	[98] Probing new physics beyond the Standard Model at multi-TeV muon colliders	Dr JUEID, Adil
15:15	[49] Probing Baryogenesis with Radiative Beauty Decay and Electron EDM	HOU, George Wei-Shu