

Summer school for Future Higgs Factories 2025



Report of Contributions

Contribution ID: 1

Type: **not specified**

Introduction

Friday 29 August 2025 13:30 (10 minutes)

Presenter: ISHINO, Masaya (University of Tokyo (JP))

Session Classification: Welcome

Contribution ID: 2

Type: **not specified**

Practical info

Friday 29 August 2025 13:45 (10 minutes)

Presenter: SUEHARA, Taikan (ICEPP, The University of Tokyo)

Session Classification: Welcome

Contribution ID: 3

Type: **not specified**

Introduction to physics analysis for Higgs factories

Contribution ID: 4

Type: **not specified**

Introduction と ILC の概要

Presenter: ISHINO, Masaya (University of Tokyo (JP))

Contribution ID: 5

Type: **not specified**

Practical info

Presenter: SUEHARA, Taikan (ICEPP, The University of Tokyo)

Contribution ID: 6

Type: **not specified**

Big picture of particle physics

Saturday 30 August 2025 13:30 (1 hour)

Presenter: KITANO, Ryuichiro

Session Classification: 招待講義 / Invited Lecture

Contribution ID: 7

Type: **not specified**

Introduction to physics analysis for Higgs factories

Friday 29 August 2025 17:20 (40 minutes)

Presenter: JEANS, Daniel

Session Classification: 物理解析 / Physics analysis

Contribution ID: 8

Type: **not specified**

ハドロンコライダーの物理とその展望 / **Hadron collider: physics and prospects**

Saturday 30 August 2025 15:00 (30 minutes)

Presenter: MASUBUCHI, Tatsuya (The University of Osaka (JP))

Session Classification: 素粒子実験の現状と将来 / Particle physics: Now and Future

Contribution ID: 9

Type: **not specified**

フレーバーの物理とその展望 / **Flavor experiments: physics and prospects**

Saturday 30 August 2025 15:30 (30 minutes)

Presenter: UNO, Kenta (KEK IPNS)

Session Classification: 素粒子実験の現状と将来 / Particle physics: Now and Future

Contribution ID: 10

Type: **not specified**

電子陽電子ヒッグスファクトリー計画とその展望 / **e+e- Higgs factory projects and its provision**

Saturday 30 August 2025 16:00 (30 minutes)

Presenter: SUEHARA, Taikan (ICEPP, The University of Tokyo)

Session Classification: 素粒子実験の現状と将来 / Particle physics: Now and Future

Contribution ID: **11**

Type: **not specified**

Group discussions

Saturday 30 August 2025 16:30 (1 hour)

Session Classification: 素粒子実験の現状と将来 / Particle physics: Now and Future

Contribution ID: 12

Type: **not specified**

こいつ、動くぞ、からやはり動くか、への機械学習 /
Machine Learning at Hight Energy Physics

Sunday 31 August 2025 09:00 (30 minutes)

Presenter: MORINAGA, Masahiro

Session Classification: テクノロジーの将来 / Future of Technologies

Contribution ID: 13

Type: **not specified**

量子で素粒子 / **Quantum for particle physics**

Sunday 31 August 2025 09:30 (30 minutes)

Presenter: CHEN, Shion (Kyoto University (JP))

Session Classification: テクノロジーの将来 / Future of Technologies

Contribution ID: 14

Type: **not specified**

AI エレクトロニクス / AI electronics

Sunday 31 August 2025 10:00 (30 minutes)

Presenters: HORII, Yasuyuki (Nagoya University); HORII, Yasuyuki (Nagoya University (JP))

Session Classification: テクノロジーの将来 / Future of Technologies

Contribution ID: 15

Type: **not specified**

Follow-up of group discussions

Sunday 31 August 2025 11:00 (50 minutes)

Session Classification: まとめ / Wrapup

Contribution ID: **16**

Type: **not specified**

Farewell

Sunday 31 August 2025 11:50 (10 minutes)

Session Classification: まとめ / Wrapup

Contribution ID: 17

Type: **not specified**

Higgs theory

Friday 29 August 2025 14:00 (1 hour)

Presenters: KIKUCHI, Mariko (Nihon University); KIKUCHI, Mariko (University of Toyama)

Session Classification: 物理 / Physics (theory)

Contribution ID: **18**

Type: **not specified**

測定器技術の基礎 / **Indroduction to particle detectors**

Friday 29 August 2025 15:00 (30 minutes)

Presenter: ENARI, Yuji (KEK High Energy Accelerator Research Organization (JP))

Session Classification: 測定器 / Detector

Contribution ID: **19**

Type: **not specified**

半導体検出器 / **Semiconductor detectors**

Friday 29 August 2025 15:30 (30 minutes)

Presenter: OKAZAKI, Yuta (KEK High Energy Accelerator Research Organization (JP))

Session Classification: 測定器 / Detector

Contribution ID: 20

Type: **not specified**

ガス検出器 / **Gaseous detectors**

Friday 29 August 2025 16:20 (30 minutes)

Presenter: NAKAZAWA, Yu

Session Classification: 測定器 / Detector

Contribution ID: **21**

Type: **not specified**

カロリメータ / **Calorimeters**

Friday 29 August 2025 16:50 (30 minutes)

Presenter: SHIOMI, koji

Session Classification: 測定器 / Detector

Contribution ID: 22

Type: **not specified**

Quantum entanglement at colliders

Saturday 30 August 2025 09:00 (1 hour)

Presenter: SAKURAI, Kazuki (University of Warsaw (PL))

Session Classification: 物理 / Physics (theory)

Contribution ID: 23

Type: **not specified**

粒子加速器の基礎 / **Introduction of particle accelerators**

Saturday 30 August 2025 10:00 (40 minutes)

Presenter: SAKAI, Hiroshi (KEK)

Session Classification: 加速器 / Accelerator

Contribution ID: 24

Type: **not specified**

超伝導空洞の基礎と最前線 / **Introduction to superconducting cavities**

Saturday 30 August 2025 11:10 (40 minutes)

Presenter: DOHMAE, Takeshi

Session Classification: 加速器 / Accelerator

Contribution ID: 25

Type: **not specified**

ビーム物理の基礎と最前線 / **Introduction of beam physics**

Saturday 30 August 2025 11:50 (40 minutes)

Presenter: OKUGI, Toshiyuki (KEK)

Session Classification: 加速器 / Accelerator

Contribution ID: 26

Type: **not specified**

ALP 探索ビームダンプ実験 **EBES** のための **SiW ECAL** の準備状況

Presenter: IKEDA, Fumihito (UTokyo)

Session Classification: Night session

Contribution ID: 27

Type: **not specified**

J-PARC muon g-2/EDM 実験用陽電子飛跡検出器の開発状況

Friday 29 August 2025 21:30 (20 minutes)

Presenter: FUKUMURA, Seiso (Niigata University)

Session Classification: Night session

Contribution ID: **28**

Type: **not specified**

カイラルゲージ理論に基づくアクション模型とその現象論

Friday 29 August 2025 21:50 (20 minutes)

Presenter: TAKESHITA, Shonosuke (Hiroshima University)

Session Classification: Night session

Contribution ID: 29

Type: **not specified**

Standard model particle emission from cosmic strings

Friday 29 August 2025 22:10 (20 minutes)

Presenter: KANDA, Yukihiro (ICRR, University of Tokyo)

Session Classification: Night session

Contribution ID: 30

Type: **not specified**

高輝度 **LHC-ATLAS** 実験に向けた初段ミューオントリ
ガーの為のセクターロジックにおける **MPSoC** と
FPGA を用いた制御システムの開発

Presenter: OTSUBO, Wataru (University of Tokyo (JP))

Session Classification: Night session

Contribution ID: **31**

Type: **not specified**

TPC 内で発生する陽イオンによる電場歪みについて

Saturday 30 August 2025 20:00 (20 minutes)

Presenters: WATANABE, Kanako; WATANABE, Kanako (Iwate University)

Session Classification: Night session

Contribution ID: **32**

Type: **not specified**

ILC における $H \rightarrow ss$ 過程を用いたヒッグス粒子結合定数の測定感度推定 (**hadronic channel**)

Saturday 30 August 2025 20:20 (20 minutes)

Presenter: SEINO, Takumi (The university of Tokyo)

Session Classification: Night session

Contribution ID: 33

Type: **not specified**

ILC における $H \rightarrow ss$ 過程を用いたヒッグス粒子結合定数の測定感度推定 (**leptonic channel**)

Saturday 30 August 2025 20:40 (20 minutes)

Presenter: SUGAWARA, Ryuki

Session Classification: Night session

Contribution ID: 34

Type: **not specified**

Higgs production in association with a Z boson at TeV-scale lepton colliders

Saturday 30 August 2025 21:00 (20 minutes)

Presenter: FURUSATO, Hiroyuki (Iwate University)

Session Classification: Night session

Contribution ID: 35

Type: **not specified**

荷電スカラー粒子の弱ボソン崩壊における **CP** の破れ と将来コライダー実験における検証

Saturday 30 August 2025 21:30 (20 minutes)

Presenter: MURA, Yushi (Osaka Univ.)

Session Classification: Night session

Contribution ID: 36

Type: **not specified**

ニュートリノ質量、ダークマター、バリオン数非対称性を同時に説明する輻射シーソー模型

Saturday 30 August 2025 21:50 (20 minutes)

Presenter: 谷口, 宙 (大阪大学)

Session Classification: Night session

Contribution ID: 37

Type: **not specified**

輻射補正を含めたヒッグスボソン崩壊の解析によるヒ ッグス **3** 重項模型の検証

Saturday 30 August 2025 22:10 (20 minutes)

Presenters: SAKURAI, Kodai (University of Toyama); SAKURAI, Kodai; SAKURAI, Kodai (Tohoku University)

Session Classification: Night session

Contribution ID: 38

Type: **not specified**

t チャネル特異点に対する解析的処方

Saturday 30 August 2025 22:30 (20 minutes)

Presenter: 龍政, 佐藤 (横浜国立大学)

Session Classification: Night session

Contribution ID: 39

Type: **not specified**

Proton Decay and Gauge Coupling Unification in an Extended SU(5) GUT with 45-Dimensional Higgs

Friday 29 August 2025 19:30 (10 minutes)

Presenter: NAGANO, Keisuke (Osaka Metropolitan U)

Session Classification: Poster session

Contribution ID: 40

Type: **not specified**

KEK Linac 加速器調節への説明可能 **AI** の適用研究

Friday 29 August 2025 19:40 (10 minutes)

Presenter: KINOSHITA, Kaito (Osaka Metropolitan U)

Session Classification: Poster session

Contribution ID: 41

Type: **not specified**

説明可能 **AI** とグラフニューラルネットワークを用いた **KEK** 電子陽電子入射加速器モデル構築手法の開発

Friday 29 August 2025 19:50 (10 minutes)

Presenter: UEMURA, Kosuke (Osaka Metropolitan U)

Session Classification: Poster session

Contribution ID: 42

Type: **not specified**

高輝度 **LHC-ATLAS** 実験に向けた初段ミューオントリ
ガーの為のセクターロジックにおける **MPSoC** と
FPGA を用いた制御システムの開発

Friday 29 August 2025 20:00 (10 minutes)

Presenter: OTSUBO, Wataru (University of Tokyo (JP))

Session Classification: Poster session

Contribution ID: 43

Type: **not specified**

dark photon production via off-shell process at FASER

Friday 29 August 2025 20:10 (10 minutes)

Presenter: NAKASHIMA, Yohei (Kyushu U)

Session Classification: Poster session

Contribution ID: 44

Type: **not specified**

Higgs Boson Production at $\mu+\mu+$ Colliders

Friday 29 August 2025 20:20 (10 minutes)

Presenter: Mr TREUER, Lukas (KEK, The Graduate U. Adv. Studies (SOKENDAI))

Session Classification: Poster session

Contribution ID: 45

Type: **not specified**

ATLAS 実験における機械学習を用いたミューオンの セグメント再構成

Friday 29 August 2025 20:30 (10 minutes)

Presenter: TANAKA, Tomoya (Kyoto U)

Session Classification: Poster session

Contribution ID: 46

Type: **not specified**

KEK における超伝導加速空洞を用いたクライオモジュールの設計検討

Friday 29 August 2025 20:40 (10 minutes)

Presenter: HARA, Takafumi (KEK)

Session Classification: Poster session

Contribution ID: 47

Type: **not specified**

HL-LHC に向けた量産 ITk ピクセルモジュールの性能 評価

Friday 29 August 2025 20:50 (10 minutes)

Presenter: ISHII, Hikaru (Osaka U)

Session Classification: Poster session

Contribution ID: 48

Type: **not specified**

ジェットに潜む言語について

Presenter: MORINAGA, Masahiro

Session Classification: Poster session