

ICEPP Joint Research Program in FY2024

Research Project Title	Representative and Project Organization
Studies on the control system of large-scale electronics using a System-On-a-Chip (SoC) towards the High-Luminosity LHC era	Masaya Ishino (ICEPP) and 6 researchers (Nagoya University, KEK, ICEPP)
Research for the advanced software for HL-LHC muon trigger	Junpei Maeda (Kobe University) and 10 researchers (Kobe University, ICEPP, Nagoya University, Kyoto University)
Measurements of the differential cross-section of the Higgs boson in the vector boson fusion process	Yasuyuki Horii (Nagoya University) and 5 researchers (ICEPP, Tsukuba University, Nagoya University)
Search for Supersymmetry at LHC-ATLAS experiment with novel analysis techniques and comprehensive strategy	Shion Chen (Kyoto University) and 8 researchers (Kyoto University, ICEPP)
Exploring the performance improvement of the muon trigger system for the LHC Run-3	Masato Aoki (KEK) and 9 researchers (Kobe University, ICEPP, Kyoto University)
Studies for extension of the grid computing system towards High-Luminosity LHC program	Tomoe Kishimoto (KEK) and 6 researchers (KEK, ICEPP)
Development of triggers for new particle searches for the LHC-ATLAS experiment and general research for triggers with hardware accelerator chips	Kunihiro Nagano (KEK) and 6 researchers (ICEPP, KEK, Kyoto University)
Establishment of research facility for remote collaboration for LHC-ATLAS muon trigger development	Yasuyuki Okumura (ICEPP) and 13 researchers (KEK, ICEPP, Kobe University, Nagoya University, Kyoto University)
Research on the background and sensitivity of the MEG experiment	Wataru Ootani (ICEPP) and 10 researchers (KEK, Kobe University, INFN-Pisa, INFN-Rome, ICEPP)
R&D for next generation $\mu \rightarrow e \gamma$ search experiment	Wataru Ootani (ICEPP) and 10 researchers (Kobe University, KEK, PSI, INFN-Rome, ICEPP)
Studies to improve the performance of the Liquid Xenon detector for the MEG experiment	Satoshi Mihara (KEK) and 5 researchers (ICEPP, Kyushu University, University of California, Irvine)
Studies to improve the performance of the electron spectrometer for the MEG experiment	Hajime Nishiguchi (KEK) and 6 researchers (KEK, ICEPP, INFN-Rome)
Experimental studies for long-term operation of the cryogenic and purification system for the liquid Xenon detector of the MEG experiment	Yasuhiro Makita (KEK) and 8 researchers (ICEPP, KEK, PSI)
Quantum Convolutional Neural Networks for jet images classification	Karl Jansen (DESY) and 6 researchers (DESY, ICEPP)
Research on quantum computers for application to High Energy Physics	Kohei Yorita (Waseda University) and 7 researchers (Waseda University, ICEPP)
R&D for new data-processing and data-analysis system using machine learning	Masako Iwasaki (Osaka Metropolitan University) and 8 researchers (Osaka Metropolitan University, ICEPP, Kyushu University)
Development of superconducting quantum sensors and search for wavelike dark matter	Tatsumi Nitta (ICEPP) and 6 researchers (ICEPP, Kyoto University)
Application of machine learning to beam tuning and	Yosuke Takubo (KEK) and 7 researchers

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analysis for KEK beam dump experiment	(KEK, Osaka Metropolitan University, ICEPP, Saga University)
Development of the fine-grained electro-magnetic calorimeter for the ILC experiment	Tohru Takeshita (Shinshu University) and 6 researchers (ICEPP, Shinshu University)
Electroweak Precision Measurements with Radiative Return Events at the ILC	Aleksander Filip Zarnecki (University of Warsaw/DESY) and 4 researchers (University of Warsaw, DESY, KEK, ICEPP)
Study of precise measurement of Higgs couplings on ILC	Shinya Narita (Iwate University) and 7 researchers (Iwate University, ICEPP)
Probing the Higgs Self-coupling at the ILC	Jenny List (DESY) and 4 researchers (DESY, ICEPP)