

RESEARCH INTERESTS

Phenomenology of high-energy physics, astroparticle physics, and cosmology; their interplay with experiments.

- I am an expert in **SUSY phenomenology** and **collider physics** (incl. detector physics & analysis techniques).
- I have strong interest in the **interplay** of **new physics theories** and **current/future experiments**.
- I have outstanding skill in Monte Carlo simulations and automated calculations.

CAREER

Oct. 2017 – Present	Postdoctoral researcher at Department of physics and astronomy “Galileo Galilei”, the University of Padova
Oct. 2014 – Sep. 2017	Postdoctoral fellow at Physics department, Technion—Israel Institute of Technology
Apr. 2013 – Sep. 2014	JSPS postdoctoral fellow at Kavli IPMU, the University of Tokyo (supported by Japan Society for the Promotion of Science)
Apr. 2010 – Mar. 2013	JSPS doctoral-course fellow at Graduate school of science, the University of Tokyo (supported by Japan Society for the Promotion of Science)

EDUCATION

Apr. 2010 – Mar. 2013	Ph. D. in Science Graduate school of science, the University of Tokyo (25 Mar. 2013) Dissertation: <i>Supersymmetry after the Higgs discovery and its LHC phenomenology</i> Supervisor: Prof. Koichi Hamaguchi [arXiv:1305.0790]
Apr. 2008 – Mar. 2010	M. Sc. in Physics Graduate school of science, the University of Tokyo (24 Mar. 2010) Thesis: <i>Supersymmetry without R-Parity: Its Phenomenology</i> Supervisor: Prof. Koichi Hamaguchi
Apr. 2004 – Mar. 2008	Sc. B. in Physics School of science, the University of Tokyo

GRANTS

Oct. 2016 – Sep. 2017	The Lady Davis Fellowship [15.6k USD]
Apr. 2013 – Mar. 2016 Declined in Sep. 2014	Grant-in-Aid for JSPS Research Fellows (for PostDocs) [2.76MJPY in total]
Apr. 2010 – Mar. 2013	Grant-in-Aid for JSPS Research Fellows (for Ph. D. students) [2.10MJPY in total]

WORKSHOP ORGANIZATION

16–19 Jul. 2013 Kavli IPMU School on the Future of Collider Physics «Kavli IPMU, the University of Tokyo»

PAPERS

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- [1] M. Endo, K. Hamaguchi, and S. Iwamoto,
Lepton Flavor Violation and Cosmological Constraints on R-parity Violation,
JCAP **1002** (2010) 032 [[arXiv:0912.0585](#)].
- [2] S. Asai, Y. Azuma, M. Endo, K. Hamaguchi, and S. Iwamoto,
Stau Kinks at the LHC,
JHEP **1112** (2011) 041 [[arXiv:1103.1881](#)].
- [3] M. Endo, K. Hamaguchi, S. Iwamoto, and N. Yokozaki,
Higgs Mass and Muon Anomalous Magnetic Moment in Supersymmetric Models with Vector-Like Matters,
Phys. Rev. D **84** (2011) 075017 [[arXiv:1108.3071](#)].
- [4] M. Endo and S. Iwamoto,
LHC Dijet Signals in New Physics Models for Top Forward–Backward Asymmetry, [arXiv:1110.0014](#).
- ★[5] M. Endo, K. Hamaguchi, S. Iwamoto, and N. Yokozaki,
Higgs mass, muon $g - 2$, and LHC prospects in gauge mediation models with vector-like matters,
Phys. Rev. D **85** (2012) 095012 [[arXiv:1112.5653](#)].
- [6] M. Endo, K. Hamaguchi, K. Nakayama, S. Iwamoto, and N. Yokozaki,
Higgs mass and muon anomalous magnetic moment in the $U(1)$ extended MSSM,
Phys. Rev. D **85** (2012) 095006 [[arXiv:1112.6412](#)].
- [7] M. Endo, K. Hamaguchi, S. Iwamoto, and N. Yokozaki,
Vacuum Stability Bound on Extended GMSB Models,
JHEP **1206** (2012) 060 [[arXiv:1202.2751](#)].
- [8] M. Endo and S. Iwamoto,
Comment on the CMS search for charge-asymmetric production of W' boson in $t\bar{b} + \text{jet}$ events,
Phys. Lett. B **718** (2013) 1070–1072 [[arXiv:1207.5900](#)].
- [9] M. Endo, K. Hamaguchi, K. Ishikawa, S. Iwamoto, and N. Yokozaki,
Gauge Mediation Models with Vectorlike Matters at the LHC,
JHEP **1301** (2013) 181 [[arXiv:1212.3935](#)].
- ★[10] M. Endo, K. Hamaguchi, S. Iwamoto, and T. Yoshinaga,
Muon $g - 2$ vs LHC in Supersymmetric Models,
JHEP **1401** (2014) 123 [[arXiv:1303.4256](#)].
- [11] M. Ibe, S. Iwamoto, S. Matsumoto, T. Moroi, and N. Yokozaki,
Recent Result of the AMS-02 Experiment and Decaying Gravitino Dark Matter in Gauge Mediation,
JHEP **1308** (2013) 029 [[arXiv:1304.1483](#)].
- [12] M. Endo, K. Hamaguchi, S. Iwamoto, T. Kitahara, and T. Moroi,
Reconstructing Supersymmetric Contribution to Muon Anomalous Magnetic Dipole Moment at ILC,
Phys. Lett. B **728** (2014) 274–281 [[arXiv:1310.4496](#)].
- [13] S. Iwamoto, T. T. Yanagida, and N. Yokozaki,
CP-safe Gravity Mediation and Muon $g - 2$,
PTEP **2015** 073B01 [[arXiv:1407.4226](#)].
- ★[14] J. L. Feng, S. Iwamoto, Y. Shadmi, and S. Tarem,
Long-lived sleptons at the LHC and a 100 TeV proton collider,
JHEP **1512** (2015) 166 [[arXiv:1505.02996](#)].
- [15] N. Ierushalmi, S. Iwamoto, G. Lee, V. Nepomnyashy, and Y. Shadmi,
LHC benchmarks from flavored gauge mediation,
JHEP **1607** (2016) 058 [[arXiv:1603.02637](#)].

- [16] S. Iwamoto, G. Lee, Y. Shadmi, and R. Ziegler,
Diphoton signals from colorless hidden quarkonia,
Phys. Rev. D **94** (2016) 015003 [[arXiv:1604.07776](#)].
- ★[17] M. Abdullah, J. L. Feng, S. Iwamoto, and B. Lillard,
Heavy bino dark matter and collider signals in the MSSM with vectorlike fourth-generation particles,
Phys. Rev. D **94** (2016) 095018 [[arXiv:1608.00283](#)].
- [18] S. Iwamoto, G. Lee, Y. Shadmi, and Y. Weiss,
Tagging new physics with charm,
JHEP **1709** (2017) 114 [[arXiv:1703.05748](#)].
- [19] M. Endo, K. Hamaguchi, S. Iwamoto, and K. Yanagi,
Probing minimal SUSY scenarios in the light of muon $g - 2$ and dark matter,
JHEP **1706** (2017) 031 [[arXiv:1704.05287](#)].
- ★[20] M. Geller, S. Iwamoto, G. Lee, Y. Shadmi, and O. Telem,
Dark quarkonium formation in the early universe, [arXiv:1802.07720](#).

Dissertation

- [A1] S. Iwamoto,
Supersymmetry after the Higgs discovery and its LHC phenomenology, [arXiv:1305.0790](#).

in proceedings

- [P1] S. Iwamoto,
Muon $g - 2$ anomaly and 125 GeV Higgs : Extra vector-like quark and LHC prospects,
AIP Conf. Proc. **1467** (2012) 57–61 [[arXiv:1206.0161](#)].
- [P2] S. Iwamoto,
LHC SUSY searches after the Higgs discovery: respecting the muon $g - 2$,
SLAC eConf C130213.1 (2013) 15–21 [[arXiv:1304.5171](#)].

in report

- [R1] T. Golling, M. Hance, P. Harris, M. L. Mangano, et al. (eds.),
Physics at a 100 TeV pp collider: beyond the Standard Model phenomena,
Chapter 3 of the “Physics at the FCC-hh” Report [[arXiv:1606.00947](#)].

SPECIAL LECTURES

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|-----------------|--|
| 11–14 Oct. 2016 | special lecture: <i>Lecture course “Tools for BSM Physics”</i>
Yonsei University, South Korea |
| 8–10 Feb. 2012 | informal lecture: <i>Automatic calculation of Feynman diagrams</i>
Osaka University, Japan |

CONFERENCE CONTRIBUTIONS

invited talks

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| 25 Oct. 2017 | invited talk: <i>Charm-tagging for new physics at the LHC</i>
“Workshop on Beyond Standard Model and the Early Universe” at Tohoku U., Japan |
| 18–19 Oct. 2016 | invited talk: <i>BSM at Colliders</i>
“Search for New Physics through the Higgs Boson” at Gwangju, South Korea |

general contributions

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| 27 Aug. 2017 | <i>Long-Lived Charged Particles at FCC-hh and FCC-he</i>
“SI2017” at Fuji-Yoshida, Japan |
| 18 Jan. 2017 | <i>LLCP at FCC-hh</i>
“1st FCC Physics Workshop” at CERN, Switzerland |
| 25 Dec. 2016 | <i>MSSM4G scenario</i>
“Israel Physical Society 62nd annual meeting” at Tel Aviv University, Israel |
| 24 Aug. 2016 | <i>Gauge mediation with flavor violation</i>
“Effective Field Theories as Discovery Tools” at MITP, Germany |
| 13 Dec. 2015 | <i>Long-lived sleptons at a 100 TeV pp collider (and at the 14 TeV LHC)</i>
“Israel Physical Society 61st annual meeting” at Bar Ilan University, Israel |
| 24 Aug. 2015 | <i>Long-lived sleptons at a 100 TeV pp collider (and at the 14 TeV LHC)</i>
“SUSY 2015” at Tahoe, CA, the United States |
| 25 Aug. 2014 | <i>CP-safe gravity mediation and muon $g - 2$</i>
“SI2014” at Fuji-Yoshida, Japan |
| 30 Jul. 2014 | <i>CP-safe gravity mediation and muon $g - 2$</i>
“Progress of Particle Physics 2014” at YITP, Japan |
| 21 Jul. 2014 | <i>ILC measurement of SUSY muon $g - 2$</i>
“ILC Summer Camp 2014” at Kurayoshi, Japan |
| 13 Feb. 2014 | <i>ILC capability of measuring SUSY-contribution to $(g - 2)_\mu$</i>
“BURI 2014” at University of Toyama, Japan |
| 7 Dec. 2013 | <i>Light SUSY is motivated by muon $g - 2$ anomaly</i>
“ATLAS-Japan workshop” at The University of Tokyo, Japan |

- 20 Nov. 2013 | *AMS-02 results and decaying gravitino dark matter*
“PASCOS 2013” at National Taiwan University, Taiwan
- 27 Aug. 2013 | *Muon $g - 2$ vs LHC in supersymmetric models*
“SUSY 2013” at ICTP, Italy
- 13 Feb. 2013 | *LHC SUSY searches after the Higgs discovery: respecting the muon $g - 2$*
“HPNP 2013” at University of Toyama, Japan
- 6 Aug. 2012 | *MSSM with Vector-like Quarks can explain 126 GeV Higgs*
“YONUPA Summer School 2012” at Fuji-Yoshida, Japan
- 15 Mar. 2012 | *Muon $g - 2$ anomaly & 125 GeV Higgs : Extra vector-like quark & LHC prospects*
“GUT2012” at YITP, Japan
- 9 Mar. 2012 | *$g - 2$ and 125 GeV Higgs*
“Sapporo Winter School 2012” at Hokkaido University, Japan
- 27 Feb. 2012 | *Long-lived stau kink signature at the LHC*
“KEK-PH 2012” at KEK, Japan
- 20 Feb. 2012 | *Higgs Mass and Muon $g - 2$ in Supersymmetric Models with Vector-Like Matters*
“Winter Toyama 2012, phenomenology & cosmology workshop” at U. of Toyama, Japan
- 18 Feb. 2012 | *Muon $g - 2$ anomaly & 125 GeV Higgs : Extra vector-like quark & LHC prospects*
“Physics opportunities with LHC at 7 TeV” at KEK, Japan
- 7–8 Sep. 2011 | poster: *In-flight-decay of Stau in the LHC Tracker*
“IPMU–YITP School on Monte Carlo Tools for LHC” at YITP, Japan
- 20 Aug. 2011 | *Long-lived Stau might be Detected in the LHC*
“YONUPA Summer School 2011” at Takashima, Japan
- 13 Aug. 2011 | poster: *Top Forward–Backward Asymmetry and Di-jet Cross Section in LHC*
“SI2011 (phenomenology)” at Fuji-Yoshida, Japan
- 4 Oct. 2010 | *Cosmological Constraints on R-Parity violating SUSY*
“2nd Bethe Center Workshop” at Bad Honnef, Germany
- 8 Aug. 2010 | *Phenomenology of R-Parity violating SUSY*
“YONUPA Summer School 2010” at Kijimadaira, Japan
- 20 Feb. 2010 | *Cosmological Constraints on R-Parity violating SUSY under Lepton Flavor Violation*
“KEK-PH 2010” at KEK, Japan

SEMINAR TALKS

- 31 Jan. 2018 | *Collider Pheno of MSSM4G* at Internal meeting of ATLAS SUSY WG (CERN), Switzerland
- 2 Nov. 2017 | *Long-lived charged particles at FCC-hh and FCC-he* at Tohoku University, Japan
- 18 Sep. 2017 | *Long-lived charged particles at future hh and he colliders* at National Taiwan U., Taiwan
- 3 May 2017 | *EXPM–PHENO cross talk: Possible use of c-tag in SUSY phenomenology*
at Joint particle physics meeting (Weizmann Institute), Israel

- 10 Nov. 2016 | *MSSM4G scenario* at IPPP, Durham U., the United Kingdom
7 Nov. 2016 | *MSSM4G scenario* at DAMTP, U. Cambridge, the United Kingdom
20 Sep. 2016 | *MSSM4G scenario* at The University of Tokyo, Japan
15 Sep. 2016 | *MSSM4G scenario* at Osaka University, Japan
2 Sep. 2015 | $(g - 2)_\mu$ -*SUSY and the LHC* at University of California · Irvine, the United States
17 Dec. 2014 | *SUSY with light electroweakino* at Joint particle physics meeting (Tel Aviv U.), Israel
1 May 2013 | *SUSY (with explaining the muon $g - 2$) at the LHC* at Kavli IPMU, U. Tokyo, Japan
8 Feb. 2013 | *SUSY at the LHC in presence of 126 GeV Higgs* at Kyushu University, Japan
20 Apr. 2012 | *125 GeV, SUSY, tension between them* at University of Toyama, Japan
19 Apr. 2012 | *125 GeV, SUSY, tension between them* at Niigata University, Japan
30 Jan. 2012 | *Long-lived Stau signature in the LHC* at DESY, Germany
16 Jan. 2012 | *Long-lived Stau signature in the LHC* at University of Bonn, Germany