yiguchi@stanford.edu

井口雄介(Iguchi Yusuke), 博士(学術)

Senior Research Scientist | Co-Founder, JASS | Co-Founder, GWCJ | Green card holder

Geballe Laboratory for Advanced Materials, Stanford University
476 Lomita Mall, McCullough Room 137, Stanford, CA 94305, USA

学歴

2018/3	東京大学大学院総合文化研究科広域科学専攻相関基礎科学系　博士課程修了
2015/3	同大学院同系　修士課程修了　（指導教員：小野瀬佳文）
2013/3	東京理科大学理学部物理学科　卒業　（指導教員 ： 満田節生）

職歴

2020/7 – 現在	**Senior Research Scientist-Physical**, Geballe Laboratory for Advanced Materials, Stanford University, California, USA
2018/4 – 2020/6	**Postdoctoral Research Fellow**, Department of Applied Physics, Stanford University, California, USA　(指導教員: Kathryn Ann Moler)
2018/4 – 2020/3	**日本学術振興会海外特別研究員**
2016/4 – 2018/3	**日本学術振興会特別研究員**(DC2)

受賞歴

2018/4	日本学術振興会海外特別研究員採択
2017/1	Journal of Physics Society of Japan Papers of Editors' choice
2016/4	日本学術振興会特別研究員(DC2)採択
2015/3	東京大学大学院総合文化研究科広域科学専攻奨励賞

教育歴

2022/7 – 現在	Girls Who Code in Japanese, **ボランティア講師,** 日本&米国(online)
2022/5	nano@stanford, Greenleaf TK-8 school, CA, USA, **客員教員**
2021/12	Skype a Scientist, Chardon Primary School, NE, USA, **客員教員**
2013 – 2014	物質科学実験 II/III, 東京大学, **Teaching Assistant**
2012/5	物理 I, 埼玉県立熊谷高校, **教育実習**、3 週間

解説・総評

[2] **井口雄介**、小野瀬佳文、ジャロシンスキー守谷相互作用に由来する非相反マグノン伝搬、固体物理 vol.51 No.7(通巻 605 号)2016 年

[1] **井口雄介**、小野瀬佳文、空間反転対称性が破れた強磁性体における非相反マグノン伝搬、東京大学低温センター 年次報告 平成２６年度(2014 年度)

yiguchi@stanford.edu

運営・座長

2022/7 – 現在　**Co-Founder,** Girls Who Code in Japanese, Japan

2022/6 – 現在　**Founder & Organizer,** Japanese Academic Seminars at Stanford, CA

2023/9　**運営代表**,女性研究者の海外キャリア,1stJASS&SA,日本&米国(online)

2023/9　**座長**, 第７８回日本物理学会年次大会(東北大)、16aB101 後半

2022/8　**Session chair**, 29th Inter. Conf. on Low Temperature Physic (LT29), Sapporo

2020/5 – 20221/7　**Organizer**, TED circle at Bechtel International, Stanford University, CA

2019/12　**Session chair**, 32nd International Symposium on Superconductivity, Kyoto

Reviewers, npj Quantum Materials, Scientific Reports, Science Progress

学生指導経験

2022/1 – 現在　Logan Bishop-Van Horn (Ph.D. student, Stanford University)

2019/9 – 現在　Eli Mueller (Ph.D. student, Stanford University)

2019/11 – 2023/6　Ruby A. Shi (Ph.D. student, Stanford University)

2018/4 – 2022/6　Irene P. Zhang (Ph.D. student, Stanford University)

研究費獲得歴

2016/4 – 2018/3　**特別研究員奨励費** 16J10076、微細マイクロ波回路を利用した相対論的マグノニクスの研究、1,400,000 JPY

原著論文

(Researcher ID: C-7829-2014,　Google Scholar)

[13] E. Mueller, **Y. Iguchi**, C. Watson, C. Hicks, Y. Maeno, and K. A. Moler, Constraints on a split superconducting transition under uniaxial strain in Sr_2RuO_4 from scanning SQUID microscopy, **Physical Review B** 108, 144501 (2023). **Editors' Suggestion**

[12] **Y. Iguchi**, R.A. Shi, K. Kihou, C.-H. Lee, M. Barkman, A. L. Benfenati, V. Grinenko, E. Babaev, and K. A. Moler, Superconducting vortices carrying a temperature-dependent fraction of the flux quantum, **Science** 380, 1244-1247 (2023).

[11] **Y. Iguchi**, H. Man, S.M. Thomas, F. Ronning, P.F.S. Rosa, and K.A. Moler, Microscopic imaging homogeneous and single phase superfluid density in UTe_2, **Physical Review Letters** 130, 196003 (2023).

[10] S. Hirose, **Y. Iguchi**, Y. Nii, T. Kimura, and Y. Onose, Nonreciprocal microwave response at room temperature in multiferroic Y-type hexaferrite $BaSrCo_2Fe_{11}AlO_{22}$, **Applied Physics Letters** 121, 222401 (2022). **Editor's picks**

[9] **Y. Iguchi**, I. P. Zhang, E. D. Bauer, F. Ronning, J. R. Kirtley, and K. A. Moler, Local observation of linear-T superfluid density and anomalous vortex dynamics in URu_2Si_2, **Physical Review B(Letter)** 103, L220503 (2021).

[8] I. P. Zhang, J. C. Palmstrom, H. Noad, L. B.-V. Horn, **Y. Iguchi**, Z. Cui, E. Mueller, J. R. Kirtley, I. R. Fisher, and K. A. Moler, Imaging anisotropic vortex dynamics in FeSe, **Physical Review B** 100, 024514 (2019).

[7] **Y. Iguchi**, Y. Nii, M. Kawano, H. Murakawa, N. Hanasaki, and Y. Onose, Microwave non-reciprocity of magnon excitations in a non-centrosymmetric antiferromagnet $Ba_2MnGe_2O_7$, **Physical Review B** 98, 064416 (2018).

[6] **Y. Iguchi**, Y. Nii, and Y. Onose, Magnetoelectrical control of nonreciprocal microwave response in a multiferroic helimagnet, **Nature Communications** 8, 15252 (2017).

[5] Y. Nii, R. Sasaki, **Y. Iguchi**, and Y. Onose, Microwave Magneto-Chiral Effect in a Noncentrosymmetric Magnet CuB_2O_4, **Journal of the Physical Society of Japan** 86, 024707 (2017). **Editors' choice**

[4] R. Sasaki, Y. Nii, **Y. Iguchi**, and Y. Onose, Nonreciprocal propagation of surface acoustic wave in Ni/$LiNbO_3$, **Physical Review B(Rapid Communications)** 95, 020407(R) (2017).

[3] Y. Kinoshita, N. Kida, M. Sotome, T. Miyamoto, **Y. Iguchi**, Y. Onose, and H. Okamoto, Terahertz Radiation by Subpicosecond Magnetization Modulation in the Ferrimagnet $LiFe_5O_8$, **ACS photonics** 3, 1170 (2016).

[2] **Y. Iguchi**, S. Uemura, K. Ueno, and Y. Onose, Nonreciprocal magnon propagation in a noncentrosymmetric ferromagnet $LiFe_5O_8$, **Physical Review B** 92, 184419 (2015).

[1] T. Nakajima, **Y. Iguchi**, H. Tamatsukuri, S. Mitsuda, Y. Yamasaki, H. Nakao, and N. Terada, Uniaxial-Pressure Effects on Spin-Driven Lattice Distortions in Geometrically Frustrated Magnets $CuFe_{1-x}Ga_xO_2$ (x=0, 0.035), **Journal of the Physical Society of Japan** 82, 114711 (2013).

招待講演

[13] Observation of Unquantized Vortices in Superconductor
Quantum Seminar, Tsung-Dao Lee Institute, Shanghai(online), Oct 11, 2023

[12] Observation of Un-quantized Fluxes in Superconducting Vortices
7th KUJI QMAT Seminar, Cambridge, Kyoto, Seoul, and Salerno (online), Sep 7, 2023

[11] Unlocking the Mystery of Magnetic Trapping: Insights from Superconducting Vortices
12th Japanese Academic Seminars at Stanford, Stanford University, CA, July 18, 2023

[10] Microscopic imaging homogeneous and single phase superfluid density in UTe_2
UTe_2 seminar (online), Tohoku University and University of Grenoble Alpes, Dec 7, 2022

[9] Scanning SQUID microscopy on unconventional superconductors
Onose Lab seminar, Tohoku University, Miyagi, Aug 30, 2022

[8] Scanning SQUID microscopy on chiral superconductor candidates
Matsueda Lab seminar, Tohoku University, Miyagi, Aug 30, 2022

[7] Non-reciprocity of magnon excitations in non-centrosymmetric magnets
59th Risou Doctoral group, Tokyo University of Science, Tokyo(online), Dec 4, 2021

[6] Persistent electrical current
73rd Berkeley Japanese Academic Network, UC Berkeley CA(online), June 22, 2021

[5] Scanning SQUID Microscopy on Chiral Superconductor Candidates Sr_2RuO_4 and URu_2Si_2
32nd International Symposium on Superconductivity (Kyoto, 2019), PC1-1-INV

[4] Learning Superconductivity by Imaging
11th Stanford Visitors Meetup, Stanford University CA, Oct 28, 2019

[3] Looking into the world of superconductivity by using a scanning SQUID microscope
56th Berkeley Japanese Academic Network, UC Berkeley CA, Aug 26, 2019

[2] Study of "unconventional" superconductors using scanning SQUID microscopy
JSPS Researcher Gatherings, Berkeley CA, Aug 13, 2019

[1] Nonreciprocal microwave responses in noncentrosymmetric magnets
NTT Basic Research Laboratories, Japan, March 22, 2017.

最近(３年間)の学会発表(口頭)

[7] **井口雄介**, R.A. Shi, 木方邦宏, 李哲虎, M. Barkman, A. Benfenati, V. Grinenko, E. Babaev, and K. A. Moler, 温度依存した非量子化磁束を運ぶ超伝導渦糸の観測, **日本物理学会第７８回年次大会(2023)** (東北大), 領域６, 16aB101-5

[6] **Y. Iguchi**, R.A. Shi, K. Kihou, C.-H. Lee, M. Barkman, A. Benfenati, V. Grinenko, E. Babaev, and K. A. Moler, Observation of superconducting vortices carrying a temperature-dependent fraction of the flux quantum, **American Physical Society March Meeting 2023** (Las Vegas), Session Y28.00004

[5] **井口雄介**, H. Man, S.M. Thomas, F. Ronning, J. Ishizuka, M. Sigrist, P.F.S. Rosa, and K.A. Moler, 走査型 SQUID 顕微鏡を利用したカイラル超伝導候補物質 UTe_2 の局所超伝導状態の観測, **日本物理学会２０２２年秋季大会**(東工大)、領域８ 12pW521-5

[4] **Y. Iguchi**, Imaging edge fields on chiral superconductor candidate UTe_2, **29th International Conference on Low Temperature Physic (LT29) at Sapporo,** Session 22A-SF2A-03

[3] **Y. Iguchi**, H. Man, S.M. Thomas, F. Ronning, P. Rosa, K. Moler, Microscopic imaging of UTe_2 by scanning SQUID microscopy, **American Physical Society March Meeting 2022**(Chicago), Session Y65.00002

[2] **Y. Iguchi**, J.A. Straquadine, J.R. Kirtley, A. Singh, I.R. Fisher, and K.A. Moler, Non BCS-like superfluid density in a disordered charge density wave material: Pd-intercalated $ErTe_3$, **American Physical Society March Meeting 2021**(Online), Session A47.00008

[1] **井口雄介**, J.A. Straquadine, J.R. Kirtley, A. Singh, I.R. Fisher, and K.A. Moler, 乱れた電荷密度波物質 Pd_xErTe_3 における非 BCS 型超流動密度の観測, **日本物理学会第７６回年次大会(2021)**（オンライン）、領域６ 14aF1-1