

# Yusuke Iguchi, PhD

Senior Research Scientist-Physical | 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

## Education and Licenses

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- 2013/4 – 2018/3 **PhD & MS** in Basic Science, Univ. of Tokyo, Tokyo (Advisor: Yoshinori Onose)  
2013/3 **Teaching certificate** for Science in Japanese middle & high schools,  
Tokyo University of Science, Tokyo  
2009/4 – 2013/3 **BS** in Physics, Tokyo University of Science, Tokyo (Advisor : Setsuo Mitsuda)

## Employment history/work experience

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- 2020/7 – *current* **Senior Research Scientist-Physical**, Geballe Laboratory for Advanced  
Materials, Stanford University, CA  
2018/4 – 2020/6 **JSPS Overseas Postdoctoral Research Fellow**, Applied Physics,  
Stanford University, CA (Advisor: Kathryn Ann Moler)  
2016/4 – 2018/3 **JSPS Research Fellow (DC2)**

## Honors and Awards

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- 2018/4 Overseas Research **Fellowship** of Japan Society for the Promotion of Science  
2017/1 Journal of Physics Society of Japan **Papers of Editors' choice**  
2016/4 Research **Fellowship** (DC2) of Japan Society for the Promotion of Science  
2015/3 **Outstanding Graduate Student Award**, Arts and Sciences, University of Tokyo

## Teaching Experience

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- 2022/7-*current* Girls Who Code in Japanese, **Teacher**, Japan  
2022/5 nano@stanford, **Guest Teacher** at Greenleaf TK-8 School, CA  
2021/12 Skye a Scientist, **Guest Teacher** at Chardon Primary School, NE  
2013-2014 Material Science Exp. II/III, University of Tokyo, Japan, **Teaching Assistant**  
*Summer 2012* Physics I, **Guest Teacher** at Kumagaya High school, Japan

## Professional and Leadership Activities

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- 2022/8 **Session chair**, 29th Inter. Conf. on Low Temperature Physic (LT29), Sapporo  
2022/7-*current* **Co-Founder & Teacher**, Girls Who Code in Japanese, Japan  
2022/6-*current* **Founder & Organizer**, Japanese Academic Seminars at Stanford, Stanford, CA  
2020/5-2021/7 **Organizer**, TED circle at Bechtel International center, Stanford university, CA  
2019/12 **Session chair**, 32nd International Symposium on Superconductivity, Kyoto  
**Reviewers**, npj Quantum Materials, Scientific Reports, Science Progress

## Grant Awards

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- 2016/4 – 2018/3 **Principal Investigator**, Grant-in-Aid for Japan Society for the Promotion of Science Fellows, 16J10076, *Study of relativistic Magnonics by using microfabricated microwave circuit*, \$13k for 2 yrs.

## Invited Talks

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- [8] **Onose Lab seminar**, Tohoku University, Miyagi, 2022
- [7] **Matsueda Lab seminar**, Tohoku University, Miyagi, 2022
- [6] **59th Risou Doctoral group**, Tokyo University of Science, Tokyo(online), 2021
- [5] **73rd Berkeley Japanese Academic Network**, UC Berkeley, CA(online), 2021
- [4] **32nd International Symposium on Superconductivity** (Kyoto, 2019), PC1-1-INV
- [3] **11th Stanford Visitors Meetup**, Stanford University, CA, 2019
- [2] **56th Berkeley Japanese Academic Network**, UC Berkeley, CA, 2019
- [1] **JSPS Researcher Gatherings**, Berkeley, CA, 2019

## Peer Reviewed Journal Articles

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

- [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<sub>2</sub>Si<sub>2</sub>, **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<sub>2</sub>MnGe<sub>2</sub>O<sub>7</sub>, **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<sub>2</sub>O<sub>4</sub>, **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<sub>3</sub>, **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<sub>5</sub>O<sub>8</sub>, **ACS photonics** 3, 1170 (2016).
- [2] **Y. Iguchi**, S. Uemura, K. Ueno, and Y. Onose, Nonreciprocal magnon propagation in a noncentrosymmetric ferromagnet LiFe<sub>5</sub>O<sub>8</sub>, **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  $\text{CuFe}_{1-x}\text{Ga}_x\text{O}_2$  ( $x=0, 0.035$ ), **Journal of the Physical Society of Japan** 82, 114711 (2013).

### **Selected Recent Oral Presentations (2019-current)**

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- [7] **Y. Iguchi**, Imaging edge fields on chiral superconductor candidate  $\text{UTe}_2$ , **29th International Conference on Low Temperature Physic (LT29) at Sapporo**, Session 22A-SF2A-03
- [6] **Y. Iguchi**, H. Man, S.M. Thomas, F. Ronning, P. Rosa, K. Moler, Microscopic imaging of  $\text{UTe}_2$  by scanning SQUID microscopy, **American Physical Society March Meeting 2022**(Chicago), Session Y65.00002
- [5] **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  $\text{ErTe}_3$ , **American Physical Society March Meeting 2021**(Online), Session A47.00008
- [4] **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  $\text{ErTe}_3$ , **The Physical Society of Japan 76th Annual Meeting**(Online), Division 6, 14aF1-1
- [3] **Y. Iguchi**, Local rotational symmetry breaking of superconducting phase in  $\text{URu}_2\text{Si}_2$ , **Canadian Institute of Foundation for Advanced Research Quantum Materials Summer school 2019** (University of British Columbia)
- [2] **Y. Iguchi**, I.P. Zhang, E.D. Bauer, F. Ronning, J.R. Kirtley, and K.A. Moler, Study of chiral d-wave superconductor candidate  $\text{URu}_2\text{Si}_2$  by using scanning SQUID microscopy, **American Physical Society March Meeting 2019** (Boston), X08.00010
- [1] **Y. Iguchi**, I.P. Zhang, E.D. Bauer, F. Ronning, J.R. Kirtley, and K.A. Moler, Study of chiral d-wave superconductor candidate  $\text{URu}_2\text{Si}_2$  by using scanning SQUID microscopy, **The Physical Society of Japan 74th Annual Meeting** (Kyushu Univ.) (2019), Division 8, 14aS302-8