Yuta Suzuki （鈴木雄太）

Personal Information

- Address: Bldg. 4, 1-1 Oho, Tsukuba 305-0801, Japan (Lab.)
- E-mail: ysuz@post.kek.jp
- Web: https://resnant.github.io/
- Phone: +81-29-864-5659 (Lab.)

Research Interests

As a materials scientist, I am working on the knowledge discovery from materials to design novel materials; now I focus on the development of materials characterization techniques that combined with machine learning. I am interested in what kind of change will occur in the world by utilizing machine learning and related technologies, and I would like to contribute to realizing a better world from the industrial standpoint.

Education

- Bachelor of Engineering, Tokyo University of Science, Tokyo, Japan. (Mar. 2017)
- Master of Engineering, Tokyo University of Science, Tokyo, Japan. (Mar. 2019)
- Doctor of Engineering, SOKENDAI (The Graduate University for Advanced Studies), Kanagawa, Japan. (Apr. 2019 - Present)

Experience

- Internship in National Institute for Materials Science. (Aug. 2015 – Sep. 2015)
- Collaborative researcher in High Energy Accelerator Research Organization. (Jun. 2016 – May 2017)
- Teaching assistant for a student experiment of materials science. (Sep. 2016 – Dec. 2016)
- External researcher in High Energy Accelerator Research Organization. (Jun. 2017 – Present)
- Internship in OMRON SINIC X Corp. (Mar. 2019 – Present)

Skills

- Ability to perform research with other people whom in various fields.
- Extensive knowledge in materials science.
- Experience in cutting-edge experimental physics for three years.
- Research experience in machine learning applications for two years.
- Basic operations for Linux, Git, Python, ML software, SQL, and Adobe (Ps, Ai).

Awards

- **Best Poster Award**, The 15th Microscopic Nano-materials Science Symposium. (Mar. 2017)
- **TUS Award 2018**, Tokyo University of Science. (Mar. 2019)
- **TUS Incentive Award (Mathematics and Physics)**, Tokyo University of Science, (Mar. 2019)

Research Grants

- JST ACT-I, " Development of Data Analysis Method for On-the-fly Crystal System Prediction". (Oct. 2018 – Mar. 2020, Principal Investigator)
- JSPS Research Fellowship for Young Scientists (DC1), "Development of Automated Analysis Method of High-throughput Measurement Data Utilizing Machine Learning and Materials Database". (Apr. 2019 – Mar. 2022, Principal Investigator)

Publications (refereed)

1. Yamamoto, S. *et al*., "Element Selectivity in Second-Harmonic Generation of GaFeO3 by a Soft-X-Ray Free-Electron Laser", *Physical Review Letters*. **120,** 223902 (2018). （the sixth author in 24 authors）
2. Yamamoto, S. *et al*., "Femtosecond resonant magneto-optical Kerr effect measurement on an ultrathin magnetic film in a soft X-ray free electron laser", *Japanese Journal of Applied Physics.* **57**, 09TD02 (2018). (the sixth author in 21 authors)
3. **Suzuki, Y.** *et al.,* "Machine Learning-based Crystal Structure Prediction for X-Ray Microdiffraction", *Microscopy and Microanalysis*. **24**, 144–145 (2018).
4. **Suzuki, Y.** *et al.,* "Extraction of Physical Parameters from X-ray Spectromicroscopy Data Using Machine Learning", *Microscopy and Microanalysis*. **24**, 478–479 (2018).
   Highlighted by Citrine Informatics Newsletter: https://mailchi.mp/4927e48cc33b/data-driven-materials-scientists-use-machine-learning-to-speed-discovery-of-metallic-glass-3324369
5. **Suzuki, Y**. *et al*., "Automated estimation of materials parameter from X-ray absorption and electron energy-loss spectra with similarity measures", *npj Computational Materials*. **5**, 39, (2019).
6. Saito, M. *et al*., "Fabrication of L10-FeNi by pulsed-laser deposition", *Applied Physics Letters*. **114**, 072404, (2019). (the third author in ten authors)
7. Yamada, T. **Suzuki, Y**. *et al*., "Visualization of Topological Defect in Labyrinth Magnetic Domain by Using Persistent Homology", *Vacuum and Surface Science*. **62**, 153–160, (2019).

Invited Talks

1. **Suzuki, Y.**, "Informatics in Materials Science", The 1st Symposium of Mathematics and Informatics in Tokyo University of Science, Tokyo Japan, Dec. 2018.
2. **Suzuki, Y.**, "Materials Parameter Estimation from X-ray Absorption Spectrum by Similarity of Data", Research meeting in The Institute of Statistical Mathematics: Recent Development of Statistical Machine Learning, Tokyo Japan, Jan. 2019.

International Conference Presentations (refereed)

1. **Suzuki, Y.** *et al.*, "Comparison of Similarity Measures in X-ray Absorption Spectra for Automated Physical Property Estimation", The 8th International Symposium on Surface Science, Ibaraki Japan, October 2017.
2. **Suzuki, Y.** *et al.*, "Estimation of Physical Parameters Using Dimensionality Reduction of X-Ray Absorption Spectra", The 13th International Conference on Synchrotron Radiation Instrumentation, Taipei Taiwan, Jun. 2018.
3. **Suzuki, Y.** *et al.*, "Machine Learning-based Crystal Structure Prediction for X-Ray Microdiffraction", The 14th International Conference on X-ray Microscopy, Saskatchewan Canada, Aug. 2018.

4. **Suzuki, Y.** *et al.*, “Automated Lattice Constant Estimation of X-ray Diffraction by Ensemble Learning”, The 5th International Conference on Electronic Materials and Nanotechnology for Green Environment, Jeju Korea, Nov. 2018.
5. And two others as first author