

# Masaki MIZUGUCHI

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## Education

1998: B. S. The University of Tokyo, Japan

2003: Ph. D. Engineering, The University of Tokyo, Japan



## Professional Career

2003-2004: Research Fellow, the Japan Society for the Promotion of Science, Japan

2004-2007: Project Assistant professor, Osaka University, Japan

2007-2009: Assistant professor, Tohoku University, Japan

2009-2020: Associate Professor, Tohoku University, Japan

2020-present: Professor, Nagoya University, Japan

## Major Fields

Magnetic thin films

Spintronics

Nano-devices

Nano-functional materials

## Research Topics

Development of high efficiency thermoelectric devices using spin currents

Research on spin-torque microwave oscillators and detectors

Fabrication of noble-metal free magnetic alloy films

## Selected recent publications

- H. Sharma, Z. Wen, and **M. Mizuguchi**, “Spin Seebeck effect mediated reversal of vortex-Nernst effect in superconductor-ferromagnet bilayers”, *Scientific Reports*, **13**, 4425 (2023).
- R. Kitaura, T. Ishibe, H. Sharma, **M. Mizuguchi**, and Y. Nakamura, “Nanostructure design for high performance thermoelectric materials based on anomalous Nernst effect using metal/semiconductor multilayer”, *Applied Physics Express*, **14**, 075002 (2021).
- P. Sheng, T. Fujita, and **M. Mizuguchi**, “Anomalous Nernst effect in  $\text{Co}_x(\text{MgO})_{1-x}$  granular thin films”, *Applied Physics Letters*, **116**, 142403 (2020).
- **M. Mizuguchi** and S. Nakatsuji, “Energy harvesting materials based on the anomalous Nernst effect”, *Science and Technology of Advanced Materials*, **20**, 262 (2019).
- H. Sharma, Z. Wen, K. Takanashi, and **M. Mizuguchi**, “Anomaly in anomalous Nernst effect at low temperature for  $C1_b$ -type NiMnSb half-Heusler alloy thin film”, *Japanese Journal of Applied Physics*, **58**, SBBI03 (2019).
- S. Isogami, K. Takanashi, and **M. Mizuguchi**, “Dependence of anomalous Nernst effect on crystal orientation in highly ordered  $\gamma'$ - $\text{Fe}_4\text{N}$  films with anti-perovskite structure”, *Applied Physics Express*, **10**, 073005 (2017).
- K. Hasegawa, **M. Mizuguchi**, Y. Sakuraba, T. Kamada, T. Kojima, T. Kubota, S. Mizukami, T. Miyazaki, and K. Takanashi, “Material dependence of anomalous Nernst effect in perpendicularly magnetized ordered-alloy thin films”, *Applied Physics Letters*, **106**, 252405 (2015).