

Contents

1	Background	1
1.1	Education	1
1.2	Appointments/Employments	1
2	Research	1
2.1	Publications (Including Preprints)	1
2.2	Given Talks	2
3	Teaching Experience	2
4	Recognition and Honors	3
4.1	Awards	3
4.2	Memberships	3
5	Miscellaneous	3
5.1	Skills	3
5.2	Detailed Experiences	4
5.3	References	4

1 Background

1.1 Education

PhD in Theoretical Physics 2016-2021, The University of Alabama - USA, Tuscaloosa
Study Abroad in JYPE 2014-2015, Tohoku University - Japan, Sendai
BS in Engineering Physics 2012-2016, The Colorado School of Mines - USA, Golden

1.2 Appointments/Employments

Assistant Professor 2025 - Present
National Institute of Technology Oyama College
JSPS Postdoc August 2023 - August 2024
Yamagata University
Technical Consultant January 2023 - May 2023
Quantum Data Center
Technical Consultant August 2022 - May 2023
quantumz.io
Postdoc 2022 - 2023
Henan University
Contract Tutor 2017 - 2021
Appliedtutoring.com
PhD Student 2016 - 2021
The University of Alabama
Graduate Teaching Assistant 2016 - 2021
The University of Alabama

2 Research

2.1 Publications (Including Preprints)

2024 - **Holographic Global Vortices with Novel Boundary Conditions**
arXiv:[2404.03212](#)

2024 - Relativistic hydrodynamics under rotation: Prospects and limitations from a holographic perspective
[10.1016/j.pnpnp.2024.104135](https://arxiv.org/abs/2308.11686) - arXiv:2308.11686
 2023 - Modes of the Sakai-Sugimoto soliton
[10.1088/1751-8121/ad742c](https://arxiv.org/abs/2306.00677) - arXiv:2306.00677
 2023 - Convergence of hydrodynamics in rapidly spinning strongly coupled plasma
[10.1103/PhysRevD.108.046014](https://arxiv.org/abs/2112.10781) - arXiv:2112.10781
 2022 - Chaos and pole-skipping in a simply spinning plasma
[10.1007/JHEP02\(2023\)253](https://arxiv.org/abs/2211.00016) - arXiv:2211.00016
 2020 - Hydrodynamics of simply spinning black holes & hydrodynamics for spinning quantum fluids
[10.1007/JHEP12\(2020\)112](https://arxiv.org/abs/2007.04345) - arXiv:2007.04345
 2020 - Resonating AdS soliton
[10.1007/JHEP08\(2020\)136](https://arxiv.org/abs/2006.12783) - arXiv:2006.12783
 2019 - Dispersion relations in non-relativistic two-dimensional materials from quasinormal modes in H \ddot{o} rava Gravity
[10.1007/JHEP10\(2019\)087](https://arxiv.org/abs/1905.11993) - arXiv:1905.11993

2.2 Given Talks

Strings and Fields <i>Kyoto University</i>	July, 2025
Holographic Applications (INVITED) <i>University of Chinese Academy of Sciences at Beijing</i>	July, 2025
Solitons at Work (INVITED) <i>Online</i>	November, 2024
Research Seminar <i>Tokyo Institute of Technology</i>	May, 2024
Research Seminar <i>Keio University</i>	May, 2024
Research Seminar <i>Chuo University</i>	May, 2024
Rising Researchers Seminar (INVITED) <i>Online</i>	April, 2024
International Workshop on Noncommutative Integrable Systems <i>Online</i>	March, 2024
Holotube (INVITED) <i>Online</i>	December, 2023
Online Workshop on Topological Solitons <i>Online</i>	September, 2023
Research Seminar <i>Tokyo University</i>	February, 2020
Research Seminar <i>Ochanomizu University</i>	February, 2020
Research Seminar <i>Chuo University</i>	February, 2020
Research Seminar <i>Würzburg University</i>	July, 2019
Frankfurt Institute for Advanced Studies <i>Würzburg University</i>	July, 2019
3rd Karl Schwarzschild Conference <i>Würzburg University</i>	July, 2017

3 Teaching Experience

Special Lectures on Special Relativity - Spring 2024
 Yamagata University - *informal lectures taught in Japanese*
PH 255: Modern Physics Laboratory - Spring 2021
 The University of Alabama - *as a graduate teaching assistant*
PH 255: Modern Physics Laboratory - Fall 2020
 The University of Alabama - *as a graduate teaching assistant*

PH 102: General Physics II - Summer 2020

The University of Alabama - *two classes were taught*

PH 125: Honors General Physics with Calculus I - Fall 2019

The University of Alabama - *as a graduate teaching assistant*

PH 255: Modern Physics Laboratory - Fall 2018

The University of Alabama - *as a graduate teaching assistant*

Tutoring Session (College Math and Physics) - Fall 2018 - Spring 2021

Applied Tutoring - *taught privately for around 5hrs a week at the University of Alabama*

PH 125: Honors General Physics with Calculus I - Fall 2016

The University of Alabama - *as a graduate teaching assistant*

PH 105: General Physics with Calculus I - Fall 2016 - Spring 2021

The University of Alabama - *as a graduate teaching assistant for 0-2 classes per year*

PH 106: General Physics with Calculus II - Fall 2016 - Spring 2021

The University of Alabama - *as a graduate teaching assistant for 0-2 classes per year*

4 Recognition and Honors

4.1 Awards

Japanese-Language Proficiency Test (JLPT) N2 2023
Level Certification

Japan Society for the Promotion of Science 2023
Fellowship

Yamagata University

Outstanding Research by a Master's Student 2020

The University of Alabama

JASSO Scholarship 2014

Tohoku University

Private Scholarship 2008

Pagosa Springs High School

4.2 Memberships

President 2017 - 2021

*Physics and Astronomy Graduate Physics Association
of the University of Alabama*

Secretary 2017 - 2020

*Japanese American Cultural Exchange Club of the
University of Alabama*

5 Miscellaneous

5.1 Skills

- Known Languages
 - English (Native)
 - Japanese (Conversational/JLPT N2)
- Programming Languages
 - Python (+5 years)
 - Julia (+5 years)
 - Mathematica (+10 years)
 - Go (1 year)
 - C (1 year)
- Mathematical Knowledge
 - Smooth Optimization (+5 years)

- Dynamical Systems (+5 years)
- Linear and Non-linear Programming (+5 years)
- Model Building (+5 years)
- Differential Geometry and Topology (+5 years)
- Familiar Technologies
 - Git, SVN, Github, and version control
 - Word and word processors
 - Inkscape and graphic editing applications
 - Sheets and spreadsheet applications
 - LaTeX
 - make and build systems
 - LLM model
 - AWS, Cloudflare, Google, and Cloud Technologies

5.2 Detailed Experiences

I have experience...

- working on programming projects remotely as part of a team. (Quantum Data Center, quantumz.io)
- collaborating on research projects with a team of researchers. (Colorado School of Mines, The University of Alabama, Henan University, Yamagata University)
- leading a classroom of university students as lecturer. (for either formal and informal lecture series) (The University of Alabama, Yamagata University)
- teaching university level physics and mathematics. (Colorado School of Mines, The University of Alabama, Henan University, Yamagata University)

5.3 References

Minoru Eto (Yamagata University, Professor) *was my Postdoc Advisor*
 meto@sci.kj.yamagata-u.ac.jp

Sven Bjarke Gudnason (Henan University, Distinguished Professor) *was my Postdoc Advisor*
 gudnason@henu.edu.cn

Matthias Kaminski (The University of Alabama, Associate Professor) *was my PhD Advisor*
 mski@ua.edu