

Adam J. Hauser

Associate Professor, Department of Physics and Astronomy, The University of Alabama

P: 973-204-9537 E: ahauser@ua.edu

EDUCATION

Ph.D. Physics, The Ohio State University (2010)

Advisor: Professor Fengyuan Yang

M.S. Physics, The Ohio State University (2008)

B.S. Physics (Honors), B.S. Astrophysics, Rutgers University (2004)

Advisor: Professor Eva Andrei

EMPLOYMENT AND POSITIONS

The University of Alabama

Director, *NRT: Alabama Collaborative for Contemporary Education in Precision Timing* 2023 - present

Associate Professor, *Department of Physics and Astronomy* 2021 - present

Vice-Chair of Undergraduate Studies, *Department of Physics and Astronomy* 2020 - 2023

Graduate Director of Recruitment and Admissions, *Department of Physics and Astronomy* 2016 - 2020

Assistant Professor, *Department of Physics and Astronomy* 2015 - 2021

University of California, Santa Barbara

Elings Prize Postdoctoral Fellow, *California Nanosystems Institute* 2012 - 2015

The Ohio State University

Postdoctoral Research Associate, *Center for Emergent Materials* 2011 - 2012

Graduate Research Fellow, *Center for Emergent Materials* 2008 - 2010

Graduate Teaching Assistant, *Department of Physics* 2004 - 2008

RESEARCH INTERESTS

Complex Functional Materials. How do we create complex materials with sufficient atomic and crystalline ordering (99%+) to determine their intrinsic properties and use them in functional electronic systems?

Airborne Chemical Sensing. How do we identify toxic and industrial chemicals (chemical weapons, explosives, opiates) at trace levels quickly and accurately, to keep warfighters, homeland security, and law enforcement safe?

Precision Time and Frequency. How do we overcome deficits in both training and cybersecure technology, enabling autonomous vehicles and safeguarding reliant defense, finance, telecommunication, and energy interests?

HONORS AND AWARDS

Faculty Early CAREER Award , National Science Foundation,	2021
Leadership Board Faculty Fellow , College of Arts and Sciences	2020-2023
Second Prize, Aldag Innovation Pitch Competition , Culverhouse College of Business	2020
1st Place, AIME Day Award Competition , NSF UA I-Corps Site	2019
SEC Travel Award , Southeastern Conference	2016
ARO Young Investigator Award , Army Research Office	2016
Short-Term Innovative Research (STIR) Award , Army Research Office	2015
Best Poster Award , FAME Center 1 st Annual Review, Los Angeles	2013
Elings Prize Postdoctoral Fellowship , California Nanosystems Institute	2012-2014
Clifford Heer Memorial Graduate Student Award , The Ohio State University	2010
Institute for Materials Research Best Poster Award , OSU Materials Week Conference	2010
Hazel Brown Teaching Award , The Ohio State University	2007

Richard J. Plano Summer Research Award, Rutgers University

2004

PROFESSIONAL SERVICE AND COMMITTEES*Ongoing Activities***Editorial Board Member, Magnetochemistry** 2021 -**Faculty co-Advisor, Women in Physics** 2018 -**Treasurer, Alabama Chapter of IEEE Magnetics Society** 2017 -**Faculty Advisor, Society of Physics Students / Sigma Pi Sigma Honor Society** 2016 -**Graduate Recruitment Committee, Department of Physics and Astronomy** 2015 -**Publication Reviewer**Journals with regular contribution: *Applied Physics Letters, Coatings, Crystals, IEEE Intelligent Transportation Systems Transactions, Indian Journal of Science, Journal of Alloys and Compounds, Scripta Materialia***Professional Memberships**

APS, ION, ECS, IEEE

*Completed Activities***University of Alabama Strategic Plan Refresh Committee Member** 2021 - 2022**Consulting Faculty, University of Alabama General Education Task Force** 2021 - 2022**Vice-Chair for Undergraduate Studies, UA Department of Physics and Astronomy** 2020 - 2023**Organizing Committee, World Chemistry Conference & Exhibition (WCCE)** 2020 - 2022**Guest Editor, Special Issue on Functional Magnetic Materials, Magnetochemistry** 2020 - 2021**Faculty Advisor, SUPER-HAM (Precision Timing Club)** 2019 - 2022**Faculty Senate Member, University of Alabama** 2018 - 2020

- 2019-20: Committee Member, Research & Service

- 2019-20: Standing Committee Representative, Research Grants

- 2018-19: Committee Member, Academic Affairs

Chair, Faculty Search Committee, Senior Hire in Experimental Precision Timing 2018 - 2020**DMP Focus Topic Organizing Committee, 2018 APS March Meeting** 2017**American Physical Society Bridge Program Liaison** 2016 - 2020

University of Alabama upgraded to Partnership Institution, 2018

Research Grants Committee, University of Alabama 2016 - 2018**Facilities Committee, MINT Center** 2016 - 2019**Educational Outreach Committee, MINT Center** 2015 - 2019**Colloquium Committee, Department of Physics and Astronomy** 2015 - 2017

DIVERSITY, OUTREACH, AND MENTORSHIP*Ongoing Activities***Women in Physics Committee, Department of Physics and Astronomy** 2018 -**High School Student Research Mentorship, The University of Alabama** 2018 -

18-19: 2; 20-21: 1; 21-22: 2, 22-23: 2

Undergraduate Mentorship, The University of Alabama 2015 -

2015-16: 10; 16-17: 11; 17-18: 15; 18-19: 16; 19-20: 16; 20-21: 15; 21-22: 12, 22-23: 12

UA Safe Zone Ally 2015 -*Completed Activities***Local Organizing Committee, Conferences for Undergraduate Women in Physics** 2018**American Physical Society Bridge Program Liaison** 2016 - 2020

Position handed off to Dr. Preethi Nair as new grad recruitment director

Mentor, MINT International Summer Internship Program 2016 - 2019

Ms. Arina Luo (NCHU, Taiwan), Ms. Shiho Nagai (Toyota Tech. Inst. (TTI), Japan)
Mentor, MINT High School Summer Internship Program
2016: Mr. Noah Garner

2016

SELECTED RECENT REFEREED PUBLICATIONS

UNIVERSITY OF ALABAMA

1. Sujan Budhathoki, Anish Rai, Ka Ming Law, Ridwan Nahar, Andrew Stewart, Smriti Ranjit, Shambhu KC, Tamara Isaacs-Smith, Ilias Bismukhametov, Ryan B. Comes, Gregory B. Thompson, Patrick R. LeClair, Tim Mewes, and **Adam J. Hauser**, “Co₂Fe(Ti_{0.5}Al_{0.5}) epitaxial thin films: Structural and magnetic properties of a Heusler alloy with Z-site transition metal substitution.” *Journal of Magnetism and Magnetic Materials* **582**, 170946 (2023) [[doi](#)]
2. Sujan Budhathoki, Arjun Sapkota, Ka Ming Law, Smriti Ranjit, Gregory M. Stephen, Don Heiman, Michelle E. Jamer, Tim Mewes, and **Adam J. Hauser**, “Ultralow Gilbert damping and induced orbital moment in strain-engineered FeGe films with Curie temperature exceeding room temperature.” *Journal of Magnetism and Magnetic Materials* **564**, 170053 (2022) [[doi](#)]
3. Ka Ming Law, Sujan Budhathoki, Smriti Ranjit, Franziska Martin, Arashdeep S. Thind, Rohan Mishra, and **Adam J. Hauser**, “Demonstration of nearly pinhole-free epitaxial aluminum thin films by sputter beam epitaxy.” *Scientific Reports*. **10**, 18357 (2020). [[doi](#)]
4. Sujan Budhathoki, Arjun Sapkota, Ka Ming Law, Smriti Ranjit, Bhuwan Nepal, Brian D. Hoskins, Arashdeep Singh Thind, Albina Y. Borisevich, Michelle E. Jamer, Travis J. Anderson, Andrew D. Koehler, Karl D. Hobart, Gregory M. Stephen, Don Heiman, Tim Mewes, Rohan Mishra, James C. Gallagher, and **Adam J. Hauser**, “Room Temperature Skyrmions in Strain-Engineered FeGe thin films.” *Phys. Rev. B: Rapid Communications* **101**, 220405(R) (2020). [[doi](#)]
5. Smriti Ranjit, Ka Ming Law, Sujan Budhathoki, Jared Allred, Richard A. Rosenberg, Dong-Soo Park, Scooter D. Johnson, and **Adam J. Hauser**, “Substrate damage and incorporation of sapphire into barium hexaferrite films deposited by aerosol deposition.” *Journal of the American Ceramic Society* **103**, 1542-1548 (2020) [[doi](#)]

UA-AFFILIATED PATENTS

1. **A.J. Hauser**, “Node-based security enhancement for the global navigation satellite system.” US Patent Application No. 63/068,416 (2020).
2. **A.J. Hauser**, S. Ranjit, and J.R. Soliz, “Portable Impedance Based Chemical Sensor.” US Patent Application No. 16/398,825 (2020).
3. Peterson, G.W., Fountain, A.W., Soliz, J.R., and **Hauser, A.J.** (Harford Co., USA). “Use of Metal-Organic Frameworks and Metal Oxides for Sensing Explosives and Toxic Chemicals using Electrical Impedance Spectroscopy.” U.S. Pat. No. 10,495,592 (2019).