Haiming Wen, Ph.D.

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Summary

Dr. Haiming Wen is an Associate Professor and Associate Chair for Research in Department of Materials Science and Engineering, with a courtesy appointment in Department of Nuclear Engineering and Radiation Science, at Missouri University of Science and Technology (Missouri S&T). He obtained his PhD from University of California – Davis in 2012, and subsequently held postdoctoral appointments at Northwestern University and Idaho National Laboratory. Prior to joining Missouri S&T in August 2017, he was a Research Assistant Professor at Idaho State University and a staff scientist at Idaho National Laboratory. Dr. Wen has extensive experience in research and development of advanced structural materials, including those for nuclear applications and for other extreme environments. He has been leading multiple research projects funded externally. **He has graduated 6 PhD students, and co-advised 5 visiting PhD students who have all graduated. Since he joined Missouri S&T, Dr. Wen has been PI, co-PI or senior personnel of $6,481,810 external research grants, with a total of *$2,900,390 shared credit* in those external grants.** In addition, he has obtained external research grants for access to Department of Energy facilities with a total facility access value of ~$3,317,000. **Dr. Wen has published 100 peer-reviewed journal papers** (with additional 9 manuscripts under review and 7 being submitted) and given 87 conference presentations (including 18 invited talks). All his papers are published in prestigious or well-regarded journals in the fields; examples include Science Advances [impact factor (IF) 14.95, 1 paper published], Acta Materialia (IF 9.20, 9 papers published), Additive Manufacturing (IF 11.63, 1 paper published), Journal of Materials Science and Technology (IF 10.31, 4 papers published), International Journal of Plasticity (IF 9.80, 1 paper published), Journal of Alloys and Compounds (IF 6.37, 7 papers published), Materials Science and Engineering A (IF 6.04, 8 papers published), Journal of European Ceramic Society (IF 6.36, 9 papers published), Scripta Materialia (IF 6.30, 1 paper published), Ceramic International (IF 5.53, 11 papers published), Journal of Materials Science (IF 4.68, 6 papers published), Materials Characterization (IF 4.53, 2 papers published), Journal of American Ceramic Society (IF 4.18, 5 papers published), and Journal of Nuclear Materials (IF 3.55, 1 paper published). His publications have received **~5,400 citations** (as of 2/10/2025 on Google Scholar), with an **h-index of 30**. He serves on the Editorial Board of the journal *Materials Science and Engineering A*, and has served as the lead guest-editor of a special issue in *AIMS Materials Science*. He regularly reviews manuscripts for many journals and research proposals for Department of Energy and National Science Foundation. Dr. Wen has been teaching 3 or 4 courses per year, and **his average student evaluation of teaching in the past six semesters was 3.8/4.0 (Spring 2022), 3.5/4.0 (Fall 2022), 3.7/4.0 (Spring 2023), 3.8/4.0 (Fall 2023), 3.9/4.0 (Spring 2024), and 3.8/4.0 (Fall 2024)**. Dr. Wen also serves as the Vice Chair of the Advanced Characterization, Testing and Simulation Technical Committee of the TMS Society, and will become the Chair in March 2026. He was named CEC Dean's Scholar, and received an Outstanding Teaching Award from Missouri S&T in Dec. 2022. He also received a Faculty Research Award from Missouri S&T in Dec. 2023. Dr. Wen also serves as the Vice Chair of the Advanced Characterization, Testing and Simulation Technical Committee of the TMS Society, and will become the Chair in March 2026. He has organized or co-organized many symposia for TMS Annual Meetings.

Education

PhD, Materials Science & Engineering, University of California, Davis *Sep. 2012*
MS, Materials Science & Engineering, Chinese Academy of Sciences *Jul. 2008*
BS (Honors), Ceramics Science & Engineering, Sichuan University, China *Jul. 2005*

Professional Experience

Associate Professor, Sept. 2023 – Present, Missouri University of Science and Technology
Assistant Professor, Aug. 2017 – Aug. 2023, Missouri University of Science and Technology
Microstructure characterization, mechanical behavior, nanostructured materials, materials processing, nuclear materials, irradiation effects

Research Assistant Professor & Staff Scientist, Jan. 2016 – Aug. 2017, Idaho State University & Idaho National Laboratory
Nuclear materials, fission product transport, nanostructured materials, materials processing, transmission electron microscopy, atom probe tomography, mechanical behavior

Postdoctoral Research Associate, Aug. 2014 – Dec. 2015, Idaho National Laboratory
Working in Characterization & Advanced PIE Division, supporting Advanced Reactor Technology microscopy

Postdoctoral Research Associate, Oct. 2012 – Aug. 2014, University of California, Davis and Northwestern University
Joint appointments at University of California, Davis, Department of Chemical Engineering & Materials Science (in Prof. Enrique Lavernia's group), and Northwestern University, Department of Materials Science and Engineering (in Prof. David Seidman's group)

Research Highlights

- Microstructure characterization of materials using transmission electron microscopy and atom probe tomography
- Development and manufacturing of advanced materials such as bulk nanostructured alloys, high entropy alloys, and composites with dramatically improved mechanical properties and irradiation resistance than conventional materials
- Nuclear fuels and structural materials designed for current and next generation nuclear reactors
- Irradiation effects in materials
- Mechanical behavior and deformation mechanisms of materials
- Application of advanced materials in energy, transportation and defense

Research Group

- **6 PhD students with Dr. Wen as advisor have graduated**: Andrew Hoffman (graduated in December 2019) now at General Electric Research, Maalavan Arivu (graduated in January 2022) now at Micron Technology, Inc., Adam Bratten (graduated in July 2022) now at General Electric Research, Hans Pommerenke (graduated in August 2023), Visharad Jalan (graduated in December 2024) now at Idaho National Laboratory, Matthew Luebbe (graduated in December 2024) now at National Institute of Standards and Technology.
- **5 joint/visiting PhD students from China with Dr. Wen as co-advisor have graduated:** Dewen Hou now at Argonne National Laboratory, Hongliang Zhang now at University of Wisconsin – Madison, Ranran Su now at University of Wisconsin – Madison, Ke He now at Chongqing University (China), Ruoyu Chen now at Anhui University of Technology (China)
- **1 postdoc has been trained for 2 years and left:** Jiaqi Duan now at University of Warwick (UK)

- **9 undergraduate researchers have graduated and left**: Nathan Curtis, Jacob Stacy, Michele Pallett, Meredith Asbury, Marina Wright, Victor DeLibera, Brady Creek, Carter Glynn, Seth Crawford
- **3 PhD students currently**: Joshua Rittenhouse, Xingshuo Zhang, and Nastaran Motaharinia.
- **1 postdoc currently**: Anish Ranjan.
- **1 undergraduate researcher currently**: Matthew Sherman.

Teaching

Average student evaluation of teaching in the past six semesters was 3.8/4.0 (Spring 2022), 3.5/4.0 (Fall 2022), 3.7/4.0 (Spring 2023), 3.8/4.0 (Fall 2023), 3.9/4.0 (Spring 2024), and 3.8/4.0 (Fall 2024).

- MET ENG 3125 Mechanical Testing of Materials Laboratory (undergraduate course, teach every Fall, taught in Fall 2018, Fall 2019, Fall 2020, Fall 2021, and Fall 2022)
- MET ENG 3130 Metals Microstructural Development (undergraduate course, teach every Spring, taught in Spring 2019, Spring 2020, Spring 2021, Spring 2022, Spring 2023, Fall 2023, and Fall 2024)
- MET ENG 5520 Electron Microscopy (graduate course, teach every semester, taught in Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024, and Fall 2024)

Honors and Awards

Dec. 2023 Missouri University of Science and Technology Faculty Research Award
Mar. 2023 "Outstanding Reviewer" for the journal *Acta Materialia*
Dec. 2022 Missouri University of Science and Technology Outstanding Teaching Award
Dec. 2022 Missouri University of Science and Technology College of Engineering and Computing Dean's Scholar Award
Aug. 2019 University of Missouri System Teaching Scholar
Oct. 2017 "Outstanding Reviewer" for the *Journal of Nuclear Materials*
Aug. 2017 "Outstanding Reviewer" for the journal *Materials Science and Engineering A*
Jul. 2015. "Outstanding Reviewer" for the *Journal of Alloys and Compounds*
May. 2015 "Outstanding Reviewer" for the journal *Materials Science and Engineering A*
Feb. 2014 Commendation JC Maxwell Young Writer's Prize, Taylor & Francis
Feb. 2012 "Top Reviewer" for the journal *Materials Science and Engineering A*
Oct. 2011 Poster Award of 2011 Materials Science & Technology Conference, Columbus, OH
Aug. 2011 Best Poster Award, Dept. of Chemical Engineering & Materials Science, UC Davis
Jul. 2007 Excellent Student of Graduate School of Chinese Academy of Sciences
Jul. 2005 Excellent Bachelor's Thesis of Sichuan University
Jul. 2005 Excellent Graduate of Sichuan University

Professional Society Membership

The Minerals, Metals, Materials Society; The ASM International Society; American Nuclear Society; Microscopy Society of America; Microanalysis Society

Professional Services

- **Guest Editor for special issue on "Nanostructured materials in extreme environments" in JOM, an official publication of the TMS society**

- **Guest Editor for special issue on "Advanced microstructural characterization of materials" in AIMS Materials Science**
- **Editorial Board Member of Materials Science and Engineering A, Metals**
- **Vice Chair of the Advanced Characterization, Testing and Simulation Committee for The Minerals, Metals, Materials Society.**
- Reviewer for Nature Communication, Materials Science and Engineering A, Scripta Materialia, Acta Materialia, Journal of Alloys and Compounds, Journal of Materials Science, Metallurgical and Materials Transactions A, Philosophical Magazine, Chemical Engineering Journal, and Journal of Nuclear Materials. Reviewed ~140 papers.
- Reviewer of grant proposals for Office of Nuclear Energy, and Office of Science under Department of Energy, as well as for National Science Foundation. Reviewed ~60 proposals.
- Lead organizer of symposium "Nanostructured Materials in Extreme Environments" at The Minerals, Metals, Materials Society 2023 and 2024 Annual Conferences. Co-organizer of the symposium at TMS 2025 Annual Conference.
- Lead organizer of symposium "Atom probe tomography for advanced characterization of metals, minerals and materials" at The Minerals, Metals, Materials Society 2018, 2019 and 2020 Annual Conferences.
- Lead organizer of symposium "Progress towards Understanding the Synthesis and Behavior of Metals Far from Equilibrium: A SMD Symposium Honoring Enrique Lavernia on the Occasion of His 60th Birthday" at The Minerals, Metals, Materials Society 2020 Annual Conference.
- Co-organizer of symposium "Nanostructured Materials for Nuclear Applications" at The Minerals, Metals, Materials Society 2017 Annual Conference.
- Member of the following technical committees for The Minerals, Metals, Materials Society: the Advanced Characterization, Testing and Simulation Committee, the Nuclear Materials Committee, the Mechanical Behavior of Materials Committee, and the Nanomechanical Materials Behavior Committee.
- Member of the following functional committee for The Minerals, Metals, Materials Society: Professional Development Committee.

<u>Department and University Services</u>

- **Associate Chair for Research / Graduate Programs (since July 2024) of Department of Materials Science and Engineering**
- **Faculty Senator for Department of Materials Science and Engineering (Since April 2024)**
- Campus Conflict of Interest Committee (Since March 2024)
- O'Keefe Lecture and Golich Lecture Nomination/Selection Committee (Since July 2024)
- Department Student Scholarship Committee
- Department PhD Qualifying Exam and Non-thesis MS Comprehensive Exam Committee
- Extractive Metallurgy Faculty Search Committee (Fall 2023 – Spring 2024)
- Dean of Libraries search committee (Spring 2023)
- Materials Research Center Director of Lab Operations search committee (Spring 2023)
- MSE NTT Teaching Faculty search committee (Fall 2022 – Spring 2023)
- College of Engineering and Computing Research Initiative Committee
- Faculty-in-charge (Summer 2018 - Summer 2022) for the Lasko Mechanical Testing of Materials Laboratory, which is open to and heavily used for teaching and research by students

and faculty in Department of Materials Science and Engineering and other departments on campus.

- Metallurgical Engineering Curriculum Committee of Department of Materials Science and Engineering
- P&T Criteria & Standards Committee of Department of Materials Science and Engineering
- Faculty Advisor of Senior Design Groups in Metallurgical Engineering: Hypereutectoid Steel Austempering, Fall 2019 – Spring 2020; Normalization Optimization of SAE 8620 Steel, Fall 2020 – Spring 2021; Normalizing and Annealing Cycles for 4120 Steels that Best Reduces Distortion from Carburizing Heat Treatment, Fall 2022 – Spring 2023; Oxide Scale Removal from 440A Stainless Steel, Fall 2023 – Spring 2024.
- MSE Open House: helped with the information fair and academic department visits during the open house events.
- ASM Materials Camp (every summer): designed and directed small group projects on microstructure and mechanical testing of alloys
- Jackling Introduction to Engineering Camp (every summer): directed laboratory demonstration on mechanical testing of alloys and gave a lecture
- PhD Dissertation Committees: have served on the Dissertation Committees of 10 PhD students, including Elizabeth Burns, Jie Wan, Tianju Chen, Mike Piston, Ryan Steere, Yizhou Du, Wesley Everhart, Cesar Ortiz Rios, Anilas Karimpilakkal, Choji Daches, Austin Mann, Kyaw Hla Saing Chak
- Research Investigator: Materials Research Center (MRC) at S&T (2017 – Present)
- Research Investigator: Peaslee Steel Manufacturing Research Center at S&T (2018 – Present)
- Research Investigator: Intelligent Systems Center at S&T (2018 – Present)

<u>Research Grants – External Grants</u>

After joining Missouri S&T (with a total shared credit of $2,900,390, out of the $6,481,810 total external research grants)

1) Title: Disruptive Manufacturing of Oxide Dispersion Strengthened Steels for Nuclear Applications; Role: PI; Funding amount: $600,000; Funding agency: Office of Nuclear Energy, Department of Energy through Texas A&M University; Dates: 8/1/2024 – 7/31/2027; Shared credit: $600,000 (100% of total).
2) Title: Nanostructuring to enhance phase stability of austenitic steels during irradiation; Role: PI; Funding amount: $390,063; Funding agency: National Science Foundation; Dates: 9/1/2022 – 8/31/2025; Shared credit: $390,063 (100% of total).
3) Title: Enhancing irradiation tolerance of steels via nanostructuring by innovative manufacturing techniques; Role: PI; Funding amount: R&D dollars $288,065 plus Nuclear Science User Facility access in the value of ~$2,400,000; Funding agency: subcontracted by Idaho State University, funding originally from Office of Nuclear Energy, Department of Energy; Dates: 10/1/2017 – 9/30/2024; Shared credit: $288,065 (100% of total).
4) Title: Durable Coating for Wind Turbine Pitch Bearing Produced via Hybrid Manufacturing; Role: co-PI; Funding amount: $1,500,000; Funding agency: Office of Energy Efficiency and Renewable Energy, Department of Energy; Dates: 5/1/2024 – 4/30/2027; Shared credit: $375,000 (25% of total).
5) Title: Oxidation behavior of silicon carbide and graphitic materials; Role: PI; Funding amount: $750,000; Funding agency: Office of Nuclear Energy, Department of Energy; Dates: 10/1/2018 – 9/30/2022; Shared credit: $457,500 (61% of total).

6) Title: Ultrafast elemental depth profiling to enable high-throughput characterization of nuclear materials and fuels; Role: PI; Funding amount: $304,724; Funding agency: Office of Nuclear Energy, Department of Energy; Dates: 10/1/2021 – 9/30/2022; Shared credit: $228,543 (75% of total).
7) Title: Nuclear Regulatory Committee Faculty Development Grant; Role: Co-PI; Funding amount: $450,000; Funding agency: Nuclear Regulatory Commission; Dates: 7/16/2018 – 7/15/2022; Shared credit: $225,000 (50% of total).
8) Title: Additive Manufacturing of Silicon Carbide Based Materials for Nuclear Applications; Role: PI; Funding amount: $161,000; Funding agency: Integrated University Program Fellowship from Office of Nuclear Energy, Department of Energy; Dates: 6/30/2020 – 8/31/2023; Shared credit: $161,000 (100% of total). Note: this is a fellowship grant for one of my PhD students, Joshua Rittenhouse; however, the research proposal was largely written by me.
9) Title: Castability of Medium Carbon Boron Titanium Steels; Role: Co-PI; Funding amount: $354,686; Funding agency: Kent D. Peaslee Steel Manufacturing Research Center (an industry consortium); Dates: 7/1/2022 – 6/30/2025; Shared credit: $53,203 (15% of total).
10) Title: Effects of mold flux, furnace atmosphere and mechanical loads on Scale Formation and Scale Removal; Role: Co-PI; Funding amount: $329,986; Funding agency: Kent D. Peaslee Steel Manufacturing Research Center (an industry consortium); Dates: 7/1/2022 – 6/30/2025; Shared credit: $49,498 (15% of total).
11) Title: Inclusion Engineering, Ca Treatment Clean Steel Processing and Clogging; Role: Co-PI; Funding amount: $363,817; Funding agency: Kent D. Peaslee Steel Manufacturing Research Center (an industry consortium); Dates: 7/1/2022 – 6/30/2025; Shared credit: $36,382 (10% of total).
12) Title: Characterizing the Performance of Ultra-High Temperature Ceramic Fuels for Nuclear Thermal Propulsion Technology; Role: Co-PI; Funding amount: $71,072; Funding agency: NASA Marshall Space Flight Center; Dates: 5/12/2020 – 12/31/2021; Shared credit: $17,768 (25% of total).
13) Title: MRI: Acquisition of High-Resolution X-Ray Computed Tomography System for Real-Time, In Situ Studies of Various Effects on Microstructure of Materials; Role: senior personnel; Funding amount: $918,397; Funding agency: National Science Foundation; Dates: 10/1/2020 – 9/30/2021; Shared credit: $18,368 (2% of total).

Before joining Missouri S&T

14) Title: Advanced manufacturing of metallic fuels and cladding by equal-channel angular pressing; Role: PI; Funding amount: $875,000; Funding agency: Laboratory Directed Research and Development (LDRD), Idaho National Laboratory; Dates: 10/1/2016 – 9/30/2019.

<u>Research Grants – External Facility Access Grants (with a total facility access value of ~$3,317,000)</u>

Nuclear Science User Facility, Office of Nuclear Energy, Department of Energy

1) Title: Enhancing irradiation tolerance of steels via nanostructuring by innovative manufacturing techniques; Role: PI; Funding amount: $2,400,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 10/1/2016 – 9/30/2024.
2) Title: Understanding the role of nanostructuring in enhancing phase stability of 304 austenitic

steel during irradiation via in-situ ion irradiation in transmission electron microscope; Role: PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 9/15/2023 – 3/15/2024.

3) Title: Atom Probe Tomography and Transmission Electron Microscopy of Neutron-Irradiated Nanocrystalline Compositionally Complex Alloys; Role: co-PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 9/15/2023 – 3/15/2024.
4) Title: High-Resolution Characterization of Neutron-Irradiated High-Entropy Alloys; Role: co-PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 2/15/2023 – 11/15/2023.
5) Title: Irradiation behavior of nanostructured ferritic/martensitic Grade 91 steel at high dose; Role: PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 6/15/2022 – 3/15/2023.
6) Title: Characterization of Neutron-irradiated FeCrMnNi Compositionally Complex Alloy; Role: co-PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 6/15/2022 – 3/15/2023.
7) Title: Correlative Transmission Electron Microscopy and Atom Probe Tomography Study of Radiation Induced Segregation and Precipitation in Nanostructured SS304; Role: Co-PI (mentored a PhD student to be the PI); Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 9/15/2019 – 6/15/2020.
8) Title: Advanced microstructural characterization of irradiation-induced phase transformation in 304 steel; Role: Co-PI (mentored a PhD student to be the PI); Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 9/15/2019 – 6/15/2020.
9) Title: Alleviating irradiation-induced precipitation in a Fe-21Cr-5Al alloy via nanostructuring; Role: Co-PI (mentored a PhD student to be the PI); Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 5/15/2019 – 2/15/2020.
10) Title: Nanostructuring to enhance irradiation tolerance of ferritic/martensitic Grade 91 steels; Role: PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 6/1/2018 – 3/1/2019.
11) Title: Enhanced irradiation tolerance of high-entropy alloys; Role: PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 10/1/2017 – 7/1/2018.
12) Title: Atom probe tomography of neutron irradiated U-Mo; Role: PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 5/1/2017 – 2/1/2018.
13) Title: Ion irradiation of advanced materials – nanostructured steels and high entropy alloys; Role: PI; Funding amount: $50,000 (facility access value); Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 1/1/2017 – 10/1/2017.
14) Title: STEM-EELS studies of Fission Product Transport in Neutron Irradiated TRISO Fuel Particles; Role: PI; Funding amount: $50,000; Funding agency: Nuclear Science User Facility, Department of Energy; Dates: 9/1/2015 – 5/31/2016.

Center for Nanophase Materials Science, Oak Ridge National Laboratory

15) Atom Probe Tomography Study of Thermal Annealing-induced Solute Segregation and Precipitation in Nanostructured Austenitic 304L Steel; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/1/2025 – 1/31/2026.
16) Atom Probe Tomography Study of Irradiation-induced Solute Segregation and Precipitation in Nanostructured Austenitic 304L Steel; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/1/2025 – 1/31/2026.
17) APT study of SiC in steam oxidized TRISO particles; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/1/2024 – 1/31/2025.
18) Atom probe tomography study of a precipitation strengthened high-entropy alloy with excellent mechanical properties; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 8/1/2023 – 7/31/2024.
19) Atom probe tomography study of irradiated precipitation-strengthened high-entropy alloys; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/1/2023 – 1/31/2024.
20) Atom probe tomography study of 3D printed precipitation-strengthened high-entropy alloys; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/1/2023 – 1/31/2024.
21) Atom probe tomography study of solute Segregation in high entropy boride materials; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/1/2022 – 1/31/2023.
22) Title: In situ Transmission Electron Microscopy Study on Oxidation of Graphite in Steam; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 8/1/2021 – 7/31/2022.
23) Title: In-situ transmission electron microscopy study of steam oxidation of silicon carbide; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 8/1/2021 – 7/31/2022.
24) Title: Determining precipitation kinetics in an $(FeNiMnCr)_{94}Ti_2Al_4$ high-entropy alloy using atom probe tomography; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/15/2021 – 2/15/2022.
25) Title: Atom Probe Tomography Study of SiC in Oxidized TRISO Particles; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 2/15/2021 – 2/15/2022.
26) Title: Atom probe tomography study of the effect of grain size on α’ Cr precipitation in isothermally aged Fe-21Cr-5Al alloy; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 7/15/2020 – 7/15/2021.
27) Title: Atom probe tomography study of α’ Cr precipitation in ion-irradiated Fe-21Cr-5Al alloy with different grain sizes; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 7/15/2020 – 7/15/2021.
28) Title: Atom Probe Tomography Study of Grain Boundary Segregation and α' Cr precipitation

in Fe-21Cr-5Al alloy; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 6/15/2019 – 12/15/2019.

29) Title: Understanding precipitation behavior in an $(FeNiMnCr)_{94}Ti_2Al_4$ high-entropy alloy using atom probe tomography; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Nanophase Materials Science, Oak Ridge National Laboratory; Dates: 6/15/2019 – 12/15/2019.

Center for Integrated Nanotechnologies, Sandia National Laboratories or Los Alamos National Laboratory

30) Title: Understanding the irradiation behavior of an additively manufactured nanoprecipitation-strengthened high-entropy alloy; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Integrated Nanotechnologies, Los Alamos National Laboratory; Dates: 7/1/2023 – 12/31/2024.
31) Title: Understanding the irradiation behavior of a precipitation-strengthened high-entropy alloy via in-situ ion irradiation in transmission electron microscope; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Integrated Nanotechnologies, Sandia National Laboratories; Dates: 8/1/2021 – 12/31/2022.
32) Title: Understanding irradiation behavior of nanocrystalline FeNiMnCr high-entropy alloy via in-situ ion irradiation in transmission electron microscope; Role: PI; Funding amount: $20,000 (facility access value); Funding agency: Center for Integrated Nanotechnologies, Sandia National Laboratories; Dates: 10/1/2021 – 1/31/2022.
33) Title: In-situ transmission electron microscopy study of silicon carbide oxidation behavior in steam; Role: Co-PI (mentored a PhD student to be the PI); Funding amount: $20,000 (facility access value); Funding agency: Center for Integrated Nanotechnologies, Sandia National Laboratories; Dates: 8/1/2021 – 12/31/2022.

Center for Nanoscale Materials, Argonne National Laboratory

34) Title: In-situ transmission electron microscopy study of silicon carbide oxidation behavior in air; Role: Co-PI (mentored a PhD student to be the PI); Funding amount: $20,000 (facility access value); Funding agency: Center for Nanoscale Materials, Argonne National Laboratory; Dates: 9/1/2023 – 1/14/2025.
35) Title: In-Situ Oxidation Study of Graphite in Transmission Electron Microscope; Role: Co-PI (mentored a PhD student to be the PI); Funding amount: $20,000 (facility access value); Funding agency: Center for Nanoscale Materials, Argonne National Laboratory; Dates: 9/1/2021 – 1/14/2023.

Archived and Refereed Journal Publications (citations ~5,285, h-index 30, i10-index 64)

(http://scholar.google.com/citations?user=maVlo6oAAAAJ&hl=en)
(*indicates corresponding author)

Published

After joining Missouri S&T

1. Curtis N*, Shah S, Bachhav M, Bawane K, Teng F, Parkin C, Yao TK, Wen HM, Couet A, "Local chemical ordering of a neutron-irradiated CrFeMnNi compositionally complex alloy", *Acta Materialia* 286 (2025) 120752.

2. Jalan V, Bratten A, Luebbe M, Wen HM*, "Water Vapor Oxidation of SiC Layer of Tristructural Isotropic Particles", *Journal of the American Ceramic Society* 108 (2025) e20225.
3. Gehmlich NT, Fuerst TF*, Gietl H, Taylor CN, Rittenhouse J, Wen HM, Cinbiz MN, "Hydrogen Permeation in Iron-Chromium-Aluminum (FeCrAl) Alloys and the Effects of Microstructure and Surface Oxide," *Journal of Nuclear Materials* 603 (2025) 155397.
4. Jalan V, Bratten A, Shi M, Gerczak T, Wen HM*, Zhao HY, Poplawsky JD, He XQ, "Influence of Temperature, Oxygen Partial Pressure, and Microstructure on the High-Temperature Oxidation Behavior of the SiC Layer of TRISO Particles," *Journal of the European Ceramic Society* 45 (2025) 116913.
5. Mooraj S, Feng S, Luebbe M, Register M, Li TY, Yavas B, Schmidt DP, Priddy MW, Pepi M, Nicholas MB, Champagne VK, Aindow M, Wen HM, Chen W*, "Martensitic transformation induced strength-ductility synergy in additively manufactured maraging 250 steel by thermal history engineering," *Journal of Materials Science & Technology* 211 (2025) 212-225.
6. Chen RY, Xin JX, Yang Q, Chen ZY, Wu QF , Li SS*, Aiqin Mao AQ, Wen HM*, "New insights into the high-temperature oxidation behavior of (TiZrHfTaNb)C high-entropy carbide," *International Journal of Refractory Metals and Hard Materials* 128 (2025) 107018.
7. Karimpilakkal A, Newkirk JW*, Schulthess JL, Liou F, Jalan V, Wen HM, "High-temperature stability and thermal expansion behavior of equi-atomic refractory multi-principal element alloys based on MoNbTi system for Gen IV reactor applications", *International Journal of Refractory Metals and Hard Materials* 128 (2025) 107064.
8. Luebbe M, Zhang F, Poplawsky JD, Duan JQ, Wen HM*, "Complex Precipitation Behavior in a Co-free High Entropy Alloy during Aging", *Journal of Alloys and Compounds* 1007 (2024) 176384.
9. Rittenhouse J, Luebbe M, Hoffman A, Liu YZ, Rebak RB, Islamgaliev RK, Valiev RZ, Wen HM*, "Effect of Grain Refinement on High Temperature Steam Oxidation of an FeCrAl Alloy," *Corrosion Science* 226 (2024) 111688.
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Proceedings of the 2015 ASME Power & Energy Conference ASME Nuclear Forum, Paper No. PowerEnergy2015-49695, Jun 28-Jul 2, 2015, San Diego, California.

Invited Book Chapter

1. Aitkaliyeva A, He LF, Wen HM, Miller B, Bai XM, Allen TR (authors contributed equally), "Irradiation effects in Generation IV nuclear reactor materials", in "Structural materials for generation IV nuclear reactors", edited by Yvon P, Woodhead Publishing, 2017, pp. 253-283.

Patent

1. Wen H, Dong S, Ding Y, Zhang X, He P, "Sol-gel synthesis of ytterbium silicate powders," Chinese patent number 200710041229.

Conference Presentations & Posters

Invited talks

After joining Missouri S&T

1. Wen HM, Luebbe M, "Phase stability of additively manufactured multi-principal element alloys in irradiation environments", **invited talk**, 2024 Materials Science & Technology Conference, October 6–9, Pittsburg, Pennsylvania.
2. Wen HM, Jalan V, "Oxidation behavior of the SiC coating of TRISO fuel particles in air or water vapor", **invited talk**, 2024 Materials Science & Technology Conference, October 6–9, Pittsburg, Pennsylvania.
3. Wen HM, "Ultrafine-grained and nanocrystalline steels under extreme conditions – ion and neutron irradiation environments", **invited talk**, 2024 International Materials Research Congress, August 18–23, Cancun, Mexico.
4. Wen HM, "Oxidation of silicon carbide and graphitic materials for nuclear applications", **invited talk**, 2024 International Congress on Advanced Materials Sciences and Engineering, July 23–26, Opatija, Croatia.
5. Wen HM, "High-entropy alloys with excellent mechanical properties and irradiation resistance", **invited talk**, 7th International Conference on Materials Science & Nanotechnology, July 15–16, 2024, Vienna, Austria.
6. Wen HM, Rittenhouse J, "Enhancing properties of steels via nanostructuring for nuclear applications", **invited talk**, 2023 Energy Materials Conference, October 10–13, Huzhou, Zhejiang, China.
7. Wen HM, Bratten A, Jalan V, "Oxidation behavior and mechanisms of the SiC coating in TRISO fuel particles", **invited talk**, 2023 TMS Annual Meeting, March 19–23, San Diego, California.
8. Wen HM, "Enhanced irradiation tolerance of steels via nanostructuring", **invited talk**, November 9, 2022, Department of Physics, University of Missouri, Columbia.
9. Wen HM, Bratten A, Jalan V, "Oxidation behavior of silicon carbide and graphitic materials for TRISO fuel application", **invited talk**, 2022 Nuclear Materials Conference, October 24–28, Ghent, Belgium.
10. Wen HM, "Ultrafine-grained and nanocrystalline austenitic or ferritic steels for nuclear applications", **invited talk**, 33rd Canadian Materials Science Conference, June 22–24, 2022, Toronto, Ontario, Canada.

11. Wen HM, Luebbe M, Pommerenke H, "Development and characterization of multi-principal element alloys with superior mechanical properties and irradiation resistance", **invited talk**, 33rd Canadian Materials Science Conference, June 22–24, 2022, Toronto, Ontario, Canada.
12. Wen HM, Luebbe M, Pommerenke H, "Development and manufacturing of solid-solution or precipitation-strengthened multi-principal element alloys with superior properties", **invited talk**, 2022 TMS Annual Meeting, February 27– March 3, Anaheim, California.
13. Wen HM, Bratten A, Jalan V, "Oxidation Behavior of TRISO Fuel Materials", **invited talk**, 2021 TMS Annual Meeting, March 14–18, virtual meeting.
14. Wen HM, "Development, manufacturing and characterization of nanostructured materials for structural applications in extreme environments", **invited talk**, January 24, 2020, Department of Materials Science and Engineering, University of California, Los Angeles.
15. Wen HM, "Nuclear fuels and structural materials – TRISO fuel, nanostructured steels, and high-entropy alloys", **invited talk**, November 8, 2018, Department of Mechanical Engineering, Virginia Tech.
16. Wen HM, "Development and evaluation of advanced alloys for nuclear applications", **invited talk**, May 8, 2018, University of Missouri Research Reactor, Columbia, Missouri.
17. Wen HM, Islamgaliev RK, Nikitina M, "Development and characterization of nanostructured steels for nuclear applications", **invited talk**, 2018 TMS Annual Meeting, March 10–14, Phoenix, Arizona.
18. Wen HM, Carnahan R, Hoffman A, Robin I, Wilding M, "Pre-irradiation Characterization of Radiation Resistant Nanocrystalline and Ultrafine-grained Austenitic Steels", **invited talk**, 2017 Microscopy and Microanalysis Meeting, Aug 6-10, 2017, St Louis, Missouri.

Contributed presentations or posters

19. Wen HM, "Reducing degradation and failure of steels via nanostructuring in nuclear applications", presentation, 10th International Conference on Engineering Failure Analysis, July 7–10, 2024, Athens, Greece.
20. Wen HM, Rittenhouse J, "Ultrafine-grained and nanocrystalline steels for nuclear applications", presentation, 2024 TMS Annual Meeting, March 3–7, Orlando, Florida.
21. Wen HM, Luebbe M, Pommerenke H, "Irradiation and oxidation behavior of multi-principal element alloys manufactured by different techniques", presentation, 2024 TMS Annual Meeting, March 3–7, Orlando, Florida.
22. Wen HM, Rittenhouse J, "Ultrafine-grained and nanocrystalline steels with enhanced properties for nuclear energy applications", poster, 2023 EMRS (European Materials Research Society) Spring Meeting, May 29 – June 2, Strasbourg, France.
23. Wen HM, Maalavan A, Islamgaliev RK, "Reduced alpa-prime precipitation during thermal annealing and irradiation in ultrafine-grained or nanocrystalline FeCrAl alloys", presentation, 2023 TMS Annual Meeting, March 19–23, San Diego, California.
24. Rittenhouse J, Luebbe M, Cinbiz MN, He LF, Wen HM, "Irradiation and Corrosion behavior of Nanostructured Grade 91 and FeCrAl alloys for Nuclear Applications", presentation, 2023 TMS Annual Meeting, March 19–23, San Diego, California.
25. Luebbe M, Hattar K, Wen HM, "Irradiation Response of Nanostructured HEAs", presentation, 2023 TMS Annual Meeting, March 19–23, San Diego, California.
26. Wen HM, Hoffman A, Maalavan A, Duan JQ, Rittenhouse J, "Development and testing of ultrafine-grained and nanocrystalline steels for nuclear applications", presentation, 2022 Nuclear Materials Conference, October 24–28, Ghent, Belgium.

27. Wen HM, Bratten A, Jalan V, "Oxidation of Silicon Carbide and Graphitic Materials of TRISO Nuclear Fuel in Oxygen Containing Environments", poster, 33rd Canadian Materials Science Conference, June 22–24, 2022, Toronto, Ontario, Canada.
28. Wen HM, Bratten A, Jalan V, "Advanced characterization of oxidation behavior of TRISO fuel SiC coating", presentation, 2022 TMS Annual Meeting, February 27– March 3, Anaheim, California.
29. Wen HM, Arivu M, Islamgaliev RK, "Thermal annealing and irradiation behavior of UFG and nanocrystalline FeCrAl alloys", presentation, 2021 Materials in Nuclear Energy Systems Conference, November 8–11, Pittsburg, Pennsylvania.
30. Bratten A, Jalan V, Wen HM, "Multi-scale characterization of silicon carbide oxidation", presentation, 2021 Materials Science and Technology Annual Meeting, October 17–20, Columbus, Ohio.
31. Chen RY, Bratten A, Rittenhouse J, Wen HM, "Extrusion-Based Additive Manufacturing of Silicon Carbide", presentation, 2021 Materials Science and Technology Annual Meeting, October 17–20, Columbus, Ohio.
32. Arivu M, Hoffman AK, Wen HM, Poplawsky J, "Understanding the influence of grain size on α' Cr precipitation in Fe-21Cr-5Al alloy during thermal aging using atom probe tomography", poster, 2021 Microscopy & Microanalysis Annual Meeting, August 1–5, virtual meeting.
33. Wen HM, Hoffman AK, Arivu M, Islamgaliev RK, "Development and qualification of ultra-fine grained and nanocrystalline steels for nuclear applications", presentation, 2021 TMS Annual Meeting, March 14–18, virtual meeting.
34. Hoffman AK, Arivu M, Wen HM, Wu YQ, "Advanced Characterization of Phase Stability Under Ion Irradiation of Utrafine-grained and Nanocrystalline SS304L", presentation, 2020 Microscopy & Microanalysis Meeting, August 3–7, virtual meeting.
35. Wen HM, Hoffman AK, Duan JQ, Arivu M, "Ultrafine-grained and nanocrystalline steels for enhanced mechanical properties and irradiation resistance", presentation, 2020 TMS Annual Meeting, February 23–27, San Diego, CA.
36. Hoffman AK, Arivu M, Wen HM, "Severe Plastic Deformation Enhanced Segregation and Precipitation in Nanostructured Steels", presentation, 2020 TMS Annual Meeting, February 23–27, San Diego, CA.
37. Hoffman AK, Arivu M, Wen HM, "Enhanced Austenite Stability in Nanostructured Steels During Ion Irradiation", presentation, 2020 TMS Annual Meeting, February 23–27, San Diego, CA.
38. Arivu M, Hoffman AK, Duan JQ, Wen HM, "Thermal stability of nanostructured ferritic and austenitic stainless steels", presentation, 2020 TMS Annual Meeting, February 23–27, San Diego, CA.
39. Arivu M, Hoffman AK, Wen HM, "Atom Probe Tomography Study of Fission Products in Neutron Irradiated U-Mo Fuel", presentation, 2020 TMS Annual Meeting, February 23–27, San Diego, CA.
40. Fu ZQ, Hoffman AK, MacDonald BE, Arivu M, Wen HM, "Atom probe tomography study of an ultrahigh-strength $Fe_{25}Ni_{25}Co_{25}Ti_{15}Al_{10}$ high-entropy alloy", poster, 2020 TMS Annual Meeting, February 23–27, San Diego, CA.
41. Wen HM, Hoffman AK, Islamgaliev RK, "Development and testing of ultrafine-grained and nanocrystalline steels for enhanced irradiation tolerance", presentation, 2019 Materials in Nuclear Energy Systems, October 6–10, Baltimore, MD, USA.

42. Arivu M, Luebbe M, Cui WY, Liou F, Wen HM, "Direct laser deposition of cobalt-free high-entropy alloys", presentation, 2019 Materials Science & Technology Conference, September 29 – October 3, Portland, Oregon.
43. Luebbe M, Hoffman A, Pommeranke H, He L, Sridharan K, Wen HM, "Effects of Ti and Al Additions on Irradiation Behavior of FeMnNiCr Based High-Entropy Alloys", presentation, 2019 Materials Science & Technology Conference, September 29 – October 3, Portland, Oregon.
44. Arivu M, Hoffman A, Duan JQ, Wen HM, "Thermal stability of ultrafine-grained FeCrAl alloy processed by equal-channel angular pressing or high-pressure torsion", presentation, 2019 Materials Science & Technology Conference, September 29 – October 3, Portland, Oregon.
45. Pommeranke H, Duan JQ, Luebbe M, Curtis N, Wen HM, "Enhancing the Properties of a Cast $FeNiMnCr_{10}$ Co-free High-entropy Alloy Through Hot Rolling", presentation, 2019 Materials Science & Technology Conference, September 29 – October 3, Portland, Oregon.
46. Pommeranke H, Hoffman A, Curtis N, Wen HM, "Corrosion Behavior of Nanostructured Stainless Steels and High Entropy Alloys", poster, 2019 Materials Science & Technology Conference, September 29 – October 3, Portland, Oregon.
47. Bratten A, Duan JQ, Pommeranke H, Wen HM, "Characterization and Oxidation of Graphite and Silicon Carbide in TRISO Nuclear Fuel", poster, 2019 Materials Science & Technology Conference, September 29 – October 3, Portland, Oregon.
48. Bratten A, Arivu M, Wen HM, Leu M, "Additive Manufacturing of Silicon Carbide via a Continuous Extrusion Method", presentation, 2019 Materials Science & Technology Conference, September 29 – October 3, Portland, Oregon.
49. Wen HM, Hoffman AK, Duan JQ, Pommerenke H, "Development and evaluation of high-entropy alloys for nuclear applications", presentation, 2019 International Conference on Materials Research and Nanotechnology, June 10–12, Rome, Italy.
50. Wen HM, Hoffman AK, Islamgaliev RK, "Nanostructured steels for enhanced mechanical properties and irradiation tolerance", presentation, 2019 European Materials Research Society Spring Meeting, May 27–31, Nice, France.
51. Wen HM, Duan JQ, Pommerenke H, Bratten A, "Oxidation behavior of TRISO fuel graphitic matrix materials in air", presentation, 2019 European Materials Research Society Spring Meeting, May 27–31, Nice, France.
52. Duan JQ, Pommerenke H, Bratten A, Wen HM, "Microstructural characterization of SiC and graphite and experimental design for measuring their oxidation behavior", presentation, The 5th Workshop on HTGR SiC Material Properties, May 21–22, 2019, Oak Ridge, TN, USA.
53. Wen HM, Hoffman AK, Duan JQ, "Microstructure evolution in irradiation-tolerant ultrafine-grained steels", presentation, 2019 TMS Annual Meeting, March 10–14, San Antonio, Texas.
54. Hoffman AK, Wen HM, "Effects of severe plastic deformation and irradiation on segregation and precipitation in ultrafine-grained steels studied using atom-probe tomography", presentation, 2019 TMS Annual Meeting, March 10–14, San Antonio, Texas.
55. Arivu M, Hoffman AK, Duan JQ, Wen HM, "Thermal stability of ultrafine-grained FeCrAl alloy processed by equal-channel angular pressing or high-pressure torsion", poster, 2019 TMS Annual Meeting, March 10–14, San Antonio, Texas.
56. Wen HM, Hoffman AK, Islamgaliev RK, "Development and evaluation of ultrafine-grained steels for nuclear applications", poster, 2018 Nuclear Materials Conference, October 14–18, Seattle, Washington.

57. Hoffman A, Wen HM, "Secondary Phase and Precipitate Characterization of a Fe25Co25Ni25Al10Ti15 HEA Using Atom Probe Tomography", presentation, 2018 TMS Annual Meeting, March 10–14, Phoenix, Arizona.
58. Hoffman A, Wen HM, "Radiation Resistant Nanostructured 304 Austenitic Steel Prepared Using ECAP and HPT", poster, 2018 TMS Annual Meeting, March 10–14, Phoenix, Arizona.
59. Hoffman A, Wen HM, Carnahan R, Robin I, Wilding M, Dunzik-Gougar ML, "Pre-Irradiation Characterization of 304 Steel Processed by Severe Plastic Deformation Techniques", presentation, 2017 ANS Winter Meeting, October 29 - November 2, Washington, DC.
60. Wilding M, Robin I, Hoffman A, Wen HM, "The Effect of High Pressure Torsion on Structural and Mechanical Properties of a Ferritic-Martensitic Grade 91 Steel", presentation, 2017 ANS Winter Meeting, October 29 - November 2, Washington, DC.
61. Carnahan R, Hoffman A, Wen HM, "Advanced Manufacturing of Metallic Fuels and Cladding Materials Using ECAP", presentation, 2017 ANS Winter Meeting, October 29 - November 2, Washington, DC.
62. Zhang HL, Su RR, Shi Liqun, O'Connor DJ, Wen HM, "Structural changes of Ti_3SiC_2 induced by different doses of helium irradiation", presentation, 2017 ANS Winter Meeting, October 29 - November 2, Washington, DC.
63. Wen HM, "Microstructure and properties of ultrafine-grained or nanocrystalline austenitic and ferritic-martenstic steels processed by ECAP or HPT", presentation, EuroMat 2017 Conference, Sept 17-22, Thessaloniki, Greece.
64. Wen HM, "Precipitation phenomena and strengthening mechanisms in ultrafine-grained and nanocrystalline Al-Zn-Mg-Cu alloy", presentation, EuroMat 2017 Conference, Sept 17-22, Thessaloniki, Greece.

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65. Wen HM, Islamgaliev RK, Nikitina M, "Microstructure and mechanical behavior of ECAP and HPT processed austenitic and ferritic-martensitic steels", presentation, 2017 TMS Annual Meeting, February 26 – March 2, San Diego, California.
66. Wen HM, Aitkaliyeva A, Wu YQ, Miller BD, Keiser D, Gan J, "Atom probe tomography study of neutron irradiated U-Mo fuel", presentation, 2017 TMS Annual Meeting, February 26 – March 2, San Diego, California.
67. Wen HM, van Rooyen IJ, "Correlation of Fission Product Transport to Grain Boundary Character in Neutron Irradiated Tristructural Isotropic Coated Nuclear Fuel Particles", presentation, 2016 TMS Annual Meeting, February 14-18, Nashville, Tennessee.
68. Wu YQ, van Rooyen IJ, Wen HM, Burns J, Madden JW, "Microstructure Characterization of TRISO Fuels by Atom Probe Tomography", presentation, 2016 TMS Annual Meeting, February 14-18, Nashville, Tennessee.
69. van Rooyen IJ, Holesinger T, Wen HM, "High Resolution Electron Microscopy Examination of Fission Product Precipitates in Triso Coated Particles", presentation, 2016 TMS Annual Meeting, February 14-18, Nashville, Tennessee.
70. Fu ZQ, Chen WP, Wen HM, Zhang DL, Chen Z, Zheng BL, Lavernia EJ, "Design and Mechanical Behavior of nanocrystalline $Co_{25}Ni_{25}Fe_{25}Al_{7.5}Cu_{17.5}$ high-entropy alloy with ultra-high strength", presentation, 2015 Materials Science & Technology Conference, October 4-8, Columbus, Ohio.
71. Wen HM, van Rooyen IJ, Hunn JD, Gerczak TJ, Baldwin CA, Montgomery FC, "Advanced microscopy study of fission product distribution in the failed SiC layer of a neutron irradiated

TRISO coated particle", presentation, 2015 Microscopy and Microanalysis Meeting, Aug 2-6, 2015, Portland, Oregon.

72. Wen HM, van Rooyen IJ, Hill C, Trowbridge TL, Coryell BD, "Fission Products Distribution in TRISO Coated Fuel Particles neutron irradiated to 3.22 x 10^{25} n/m^2 fast fluence at 1092 °C", accepted, presentation, 2015 ASME Power & Energy Conference ASME Nuclear Forum, Jun 28-Jul 2, 2015, San Diego, California.
73. Jiang L, Wen HM, Yang H, Topping TD, Lavernia EJ, Schoenung JM, "Interfacial fate of boron carbide nanoparticles within ultrafine grained aluminum matrix nanocomposites", presentation, 2015 TMS Annual Meeting, March 15-19, Orlando, Florida.
74. Topping TD, Srivatsan TS, Harrell TJ, Hu T, Wen HM, Schoenung JM, Lavernia EJ, "Conjoint influence of scandium and zirconium additions and thermomechanical processing on microstructure and mechanical behavior of cryomilled aluminum-magnesium alloys", presentation, 2014 23rd International Conference on Processing and Fabrication of Advanced Materials (PFAM XXIII), December 5-7, Roorkee, Uttarakhand, India.
75. Wen HM, Ma KK, Isheim D, Seidman DN, Schoenung JM, Lavernia EJ, "Influence of length scale on precipitation in ultrafine-grained and nanocrystalline Al-Mg-Zn-Cu alloys (Al 7075)", presentation, 2014 TMS Annual Meeting, February 16-20, San Diego, California.
76. Topping TD, Harrell TJ, Hu T, Wen HM, Schoenung JM, Lavernia EJ, "Influence of Sc and Zr additions on the microstructure and mechanical properties of UFG Al-Mg Alloys", presentation, 2014 TMS Annual Meeting, February 16-20, San Diego, California.
77. Wen HM, Ma KK, Isheim D, Seidman DN, Schoenung JM, Lavernia EJ, "Atom-probe tomographic study of precipitation in an ultrafine-grained Al-Zn-Mg-Cu alloy (Al 7075)", poster, 2013 Microscopy and Microanalysis Meeting, Aug 4-8, Indianapolis, Indiana.
78. Wen HM, Topping TD, Isheim D, Seidman DN, Lavernia EJ, "Strengthening mechanisms, nanoscale precipitation, and twin morphology in a high-strength bulk nanostructured Cu-Zn-Al alloy", presentation, 2013 TMS Annual Meeting, March 3-6, San Antonio, Texas.
79. Wen HM, Lavernia EJ, "A bulk nanostructured Cu-Zn-Al alloy with high strength and high thermal stability", presentation, 2012 XI International Conference on Nanostructured Materials, August 26-31, Rhodes, Greece.
80. Wen HM, Topping TD, Islamgaliev RK, Valiev RZ, Lavernia EJ, "High-pressure torsion-induced grain refinement/growth in coarse-grained/nanocrystalline Cu powders", presentation, 2012 TMS Annual Meeting, March 11-15, Orlando, Florida.
81. Wen HM, Topping TD, Isheim D, Seidman DN, Lavernia EJ, "Synthesis, microstructure and mechanical behavior of bulk nanostructured Cu-30%Zn alloy by spark plasma sintering of cryomilled powders", poster, 2012 TMS Annual Meeting, March 11-15, Orlando, Florida.
82. Wen HM, Zhao YH, Zhang ZH, Ertorer O, Dong SM, Lavernia EJ, "Synthesis and microstructure of bulk nanostructured Cu by spark plasma sintering of cryomilled powders", presentation, 2011 Materials Science & Technology Conference, October 16-20, Columbus, Ohio.
83. Wen HM, Zhao YH, Topping TD, Ashford D, Figueiredo RB, Xu C, Langdon TG, Lavernia EJ , "Influence of pressing temperature on microstructure evolution and mechanical behavior of ultrafine-grained Cu processed by equal-channel angular pressing", poster, 2011 Materials Science & Technology Conference, October 16-20, Columbus, Ohio.
84. Wen HM, Zhao YH, Li Y, Ertorer O, Nesterov KM, Islamgaliev RK, Valiev RZ, Lavernia EJ, "High-pressure torsion-induced grain growth and detwinning in cryomilled Cu powders", poster, 2011 Gordon Research Conference, Physical Metallurgy, August 1-5, Easton,

Massachusetts.

85. Wen HM, Zhao YH, Topping TD, Ashford D, Figueiredo RB, Xu C, Langdon TG, Lavernia EJ, "Microstructure evolution and mechanical behavior of ultrafine-grained Cu processed by equal-channel angular pressing", poster, 2011 Gordon Research Conference, Physical Metallurgy, August 1-5, Easton, Massachusetts.
86. Wen HM, Zhao YH, Zhang ZH, Ertorer O, Dong SM, Lavernia EJ, "The influence of oxygen and nitrogen contamination on the densification behavior of cryomilled copper powders during spark plasma sintering", poster, 2011 TMS Annual Meeting, February 27 - March 3, 2011, San Diego, CA.
87. Wen HM, Zhao YH, Li Y, Ertorer O, Nesterov KM, Islamgaliev RK, Valiev RZ, Lavernia EJ, "Deformation-induced grain growth and detwinning during high-pressure torsion of cryomilled Cu powders", presentation, 2010 TMS Annual Meeting, February 14-18, Seattle, WA.