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RESEARCH INTERESTS

First-principles atomistic modeling of solid-state materials, thermodynamic properties of materials, kinetic properties of materials.

PROFESSIONAL EXPERIENCE

2015– **Postdoctoral Researcher**, Ohio State University, Columbus, OH, USA
Materials Science and Engineering (Advisor: Maryam Ghazisaeidi)

EDUCATION

2015 **Ph.D.**, North Carolina State University, Raleigh, NC, USA
Materials Science and Engineering (Advisor: Douglas L. Irving)
2011 **B.Sc.**, University of Science and Technology Beijing, Beijing, China
Materials Physics (Minor: Information and Computational Science)

PEER-REVIEWED PUBLICATIONS

Journal articles

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| 2017 | C. Niu , W. Windl, and M. Ghazisaeidi. Multi-Cell Monte Carlo Relaxation method for predicting phase stability of alloys. <i>Scripta Materialia</i> , 132:9–12, Apr. 2017 |
| 2016 | C. Niu , A. J. Zaddach, C. C. Koch, and D. L. Irving. First principles exploration of near-equiatomic NiFeCrCo high entropy alloys. <i>J. Alloy. Compd.</i> , 672:510–520, July 2016

A. J. Zaddach, C. Niu , A. A. Oni, M. Fan, J. M. LeBeau, D. L. Irving, and C. C. Koch. Structure and magnetic properties of a multi-principal element Ni–Fe–Cr–Co–Zn–Mn alloy. <i>Intermetallics</i> , 68:107–112, Jan. 2016 |
| 2015 | C. Niu , A. J. Zaddach, A. A. Oni, X. Sang, J. W. Hurt III, J. M. LeBeau, C. C. Koch, and D. L. Irving. Spin-driven ordering of Cr in the equiatomic high entropy alloy NiFeCrCo. <i>Appl. Phys. Lett.</i> , 106(16):161906, Apr. 2015

X. Sang, E. D. Grimley, C. Niu , D. L. Irving, and J. M. LeBeau. Direct observation of charge mediated lattice distortions in complex oxide solid solutions. <i>Appl. Phys. Lett.</i> , 106(6):061913, Feb. 2015 |
| 2014 | K. M. Youssef, A. J. Zaddach, C. Niu , D. L. Irving, and C. C. Koch. A Novel Low-Density, High-Hardness, High-entropy Alloy with Close-packed Single-phase Nanocrystalline Structures. <i>Mater. Res. Lett.</i> , 3(2):95–99, Dec. 2014 |

- 2013 | A. J. Zaddach, **C. Niu**, C. C. Koch, and D. L. Irving. Mechanical Properties and Stacking Fault Energies of NiFeCrCoMn High-Entropy Alloy. *JOM*, 65(12):1780–1789, 2013

Book chapters

- 2016 | M. C. Gao, **C. Niu**, C. Jiang, and D. L. Irving. *High-Entropy Alloys*, chapter 10. Applications of Special Quasi-random Structures to High-Entropy Alloys. Springer, 2016

PRESENTATIONS

Presented Talks

- 2017 | C. Niu, M. Ghazisaeidi, and W. Windl. Phase prediction via ab-initio Monte Carlo Simulation for High Entropy Alloys. In *TMS*, San Diego, CA, Feb. 2017
- 2015 | C. Niu, A. J. Zaddach, A. A. Oni, X. Sang, J. W. Hurt III, J. M. LeBeau, C. C. Koch, and D. L. Irving. First principles studies of NiFeCrCoMn high entropy alloys. In *TMS*, Orlando, FL, Mar. 2015
- 2014 | C. Niu, A. J. Zaddach, C. C. Koch, and D. L. Irving. First principles simulation of a NiFeCrCoMn high entropy alloy. In *TMS*, San Diego, CA, Feb. 2014

Contributed Talks

- 2017 | D. L. Irving, C. Niu, A. Zaddach, A. Oni, J. LeBeau, and C. Koch. Predicted Properties of NiFeCrCo Based HEAs from First Principles (*invited*). In *TMS*, Orlando, FL, Mar. 2017
- 2015 | C. Niu, A. J. Zaddach, A. A. Oni, X. Sang, J. W. Hurt III, J. M. LeBeau, C. C. Koch, and D. L. Irving. Probing the local structure of NiFeCrCo: synthesis, characterization, and simulation (*invited*). In *TMS*, Orlando, FL, Mar. 2015
- A. J. Zaddach, K. M. Youssef, C. Niu, D. L. Irving, and C. C. Koch. A low-density, single-phase high entropy alloy produced by mechanical alloying. In *TMS*, Orlando, FL, Mar. 2015
- 2014 | A. J. Zaddach, C. Niu, J. M. LeBeau, C. C. Koch, and D. L. Irving. Low stacking fault energy high entropy alloys. In *TMS*, San Diego, CA, Feb. 2014
- A. J. Zaddach, C. Niu, K. M. Youssef, D. L. Irving, and C. C. Koch. Stacking fault energies and mechanical properties of fcc high entropy alloys (*invited*). In *TMS*, San Diego, CA, Feb. 2014
- 2013 | D. L. Irving, C. C. Koch, C. Niu, and A. J. Zaddach. Preparation and simulation of fcc high entropy alloys (*invited*). In *TMS*, San Antonio, TX, Mar. 2013

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