

# CHANGNING NIU

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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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| 2016 | A. J. Zaddach, <b>C. Niu</b> , 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            |
|      | <b>C. Niu</b> , 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  |
| 2015 | <b>C. Niu</b> , 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, <b>C. Niu</b> , 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, <b>C. Niu</b> , 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, <b>C. Niu</b> , C. C. Koch, and D. L. Irving. Mechanical Properties and Stacking Fault Energies of NiFeCrCoMn High-Entropy Alloy. <i>JOM</i> , 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*

- 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*

- 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. 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. 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. In *TMS*, San Antonio, TX, Mar. 2013