# COREY OSES

*Materials Science and Engineering*, Johns Hopkins University

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|---|---|
| email | corey@jhu.edu |
| phone | (W) +1 (410) 516 5779 |
| website | coreyoses.com |
| Google Scholar | user=Za7m4CMAAAAJ · citations: 3386 (YTD 1084) · h-index: 22 |

## WORK EXPERIENCE

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|---|---|---|
| *Assistant Professor* | 2022–present | Johns Hopkins University |
| *Postdoctoral Fellow* | 2018–2022 | Duke University |

**Supervisor**: S. Curtarolo

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| *Internship* | Summer 2013 | Cornell High Energy Synchrotron Source (BioSAXS on F2 and G Beamlines) |

**Supervisors**: R. E. Gillilan & E. Fontes

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| *Internship* | Summer 2012 | Cornell High Energy Synchrotron Source (Capillary Optics Group) |

**Supervisors**: R. Huang & E. Fontes

## EDUCATION

| | | |
|---|---|---|
| *Ph.D.* | 2013–2018 | Duke University |

**Department**: Mechanical Engineering and Materials Science
**Thesis**: *Machine learning, phase stability, and disorder with the Automatic Flow Framework for Materials Discovery*
**DukeSpace**: hdl.handle.net/10161/18254
**Advisor**: S. Curtarolo

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| *B.Sc.* | 2009–2013 | Cornell University |

**Department**: Applied and Engineering Physics
**Thesis**: *Plume Propagation Simulation for Pulsed Laser Deposition*
**Advisor**: J. Brock

## JOURNAL PUBLICATIONS

### 2023

38. C. Oses, M. Esters, D. Hicks, S. Divilov, H. Eckert, R. Friedrich, M. J. Mehl, A. Smolyanyuk, X. Campilongo, A. van de Walle, J. Schroers, A. G. Kusne, I. Takeuchi, E. Zurek, M. Buongiorno Nardelli, M. Fornari, Y. Lederer, O. Levy, C. Toher & S. Curtarolo, `aflow++: a C++ framework for autonomous materials design`, Comput. Mater. Sci. **in press** (2023). **arXiv**: 2208.03052. [PDF]

37. M. Esters, C. Oses, S. Divilov, H. Eckert, R. Friedrich, D. Hicks, M. J. Mehl, F. Rose, A. Smolyanyuk, A. Calzolari, X. Campilongo, C. Toher & S. Curtarolo, *aflow.org: a web ecosystem of databases, software and tools*, Comput. Mater. Sci. **216**, 111808 (2023). **DOI**: 10.1016/j.commatsci.2022.111808. [PDF]

### 2022

36. A. Calzolari, C. Oses, C. Toher, M. Esters, X. Campilongo, S. P. Stepanoff, D. E. Wolfe & S. Curtarolo, *Plasmonic high-entropy carbides*, Nat. Commun. **13**, 5993 (2022). **DOI**: 10.1038/s41467-022-33497-1. [PDF]

35. X. Wang, D. M. Proserpio, C. Oses, C. Toher, S. Curtarolo & E. Zurek, *The Microscopic Diamond Anvil Cell: Stabilization of Superhard, Superconducting Carbon Allotropes at Ambient Pressure*, Angew. Chem. **61**(32), e202205129 (2022). **DOI**: 10.1002/anie.202205129. [PDF]

34. H. J. Kulik, T. Hammerschmidt, J. Schmidt, S. Botti, M. A. L. Marques, M. Boley, M. Scheffler, M. Todorović, P. Rinke, C. Oses, A. Smolyanyuk, S. Curtarolo, A. Tkatchenko, A. P. Bartók, S. Manzhos, M. Ihara, T. Carrington, J. Behler, O. Isayev, M. Veit, A. Grisafi, J. Nigam, M. Ceriotti, K. T. Schütt, J. Westermayr, M. Gastegger, R. J. Maurer, B. Kalita, K. Burke, R. Nagai, R. Akashi, O. Sugino, J. Hermann, F. Noé, S. Pilati, C. Draxl, M. Kuban, S. Rigamonti, M. Scheidgen, M. Esters, D. Hicks, C. Toher, P. V. Balachandran, I. Tamblyn, S. Whitelam, C. Bellinger & L. M. Ghiringhelli, *Roadmap on Machine Learning in Electronic Structure*, Electron. Struct. **4**(2), 023004 (2022). **DOI**: 10.1088/2516-1075/ac572f. [PDF]

33. A. G. Kusne, A. McDannald, B. DeCost, C. Oses, C. Toher, S. Curtarolo, A. Mehta & I. Takeuchi, *Physics in the Machine: Integrating Physical Knowledge in Autonomous Phase-Mapping*, Front. Phys. **10**, 815863 (2022). **DOI**: 10.3389/fphy.2022.815863. [PDF]

32. C. Toher, C. Oses, M. Esters, D. Hicks, G. N. Kotsonis, C. M. Rost, D. W. Brenner, J.-P. Maria & S. Curtarolo, *High-entropy ceramics: Propelling applications through disorder*, MRS Bull. **47**, 194–202 (2022). **DOI**: 10.1557/s43577-022-00281-x. [PDF]

### 2021

31. M. Esters, C. Oses, D. Hicks, M. J. Mehl, M. Jahnátek, M. D. Hossain, J.-P. Maria, D. W. Brenner, C. Toher & S. Curtarolo, *Settling the matter of the role of vibrations in the stability of high-entropy carbides*, Nat. Commun. **12**, 5747 (2021). **DOI**: 10.1038/s41467-021-25979-5. [PDF]

   • This paper was selected for Editors' Highlight by Springer Nature (2021).

30. M. D. Hossain, T. Borman, C. Oses, M. Esters, C. Toher, L. Feng, A. Kumar, W. G. Fahrenholtz, S. Curtarolo, D. W. Brenner, J. M. LeBeau & J.-P. Maria, *Entropy Landscaping of High-Entropy Carbides*, Adv. Mater. **33**(42), 2102904 (2021). **DOI**: 10.1002/adma.202102904. [PDF]

29. C. W. Andersen[†], R. Armiento[†], E. Blokhin[†], G. J. Conduit[†], S. Dwaraknath[†], M. L. Evans[†], Á. Fekete[†], A. Gopakumar[†], S. Gražulis[†], A. Merkys[†], F. Mohamed[†], C. Oses[†], G. Pizzi[†], G.-M. Rignanese[†], M. Scheidgen[†], L. Talirz[†], C. Toher[†], D. Winston[†], R. Aversa, K. Choudhary, P. Colinet, S. Curtarolo, D. Di Stefano, C. Draxl, S. Er, M. Esters, M. Fornari, M. Giantomassi, M. Govoni, G. Hautier, V. Hegde, M. K. Horton, P. Huck, G. Huhs, J. Hummelshøj, A. Kariryaa, B. Kozinsky, S. Kumbhar, M. Liu, N. Marzari, A. J. Morris, A. Mostofi, K. A. Persson, G. Petretto, T. Purcell, F. Ricci, F. Rose, M. Scheffler, D. Speckhard, M. Uhrin, A. Vaitkus, P. Villars, D. Waroquiers, C. Wolverton, M. Wu & X. Yang, *OPTIMADE: an API for exchanging materials data*, Sci. Data **8**, 217 (2021). **DOI**: 10.1038/s41597-021-00974-z. [PDF]
   [†] contributed equally

28. R. Friedrich, M. Esters, C. Oses, S. Ki, M. J. Brenner, D. Hicks, M. J. Mehl, C. Toher & S. Curtarolo, *Automated coordination corrected enthalpies with AFLOW-CCE*, Phys. Rev. Mater. **5**, 043803 (2021). **DOI**: 10.1103/PhysRevMaterials.5.043803. [PDF]

27. D. Hicks, M. J. Mehl, M. Esters, C. Oses, O. Levy, G. L. W. Hart, C. Toher & S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 3*, Comput. Mater. Sci. **199**, 110450 (2021). **DOI**: 10.1016/j.commatsci.2021.110450.

26. M. J. Mehl, M. Ronquillo, D. Hicks, M. Esters, C. Oses, R. Friedrich, A. Smolyanyuk, E. Gossett, D. Finkenstadt & S. Curtarolo, *Tin-pest problem as a test of density functionals using high-throughput calculations*, Phys. Rev. Mater. **5**, 083608 (2021). **DOI**: 10.1103/PhysRevMaterials.5.083608. [PDF]

25. M. D. Hossain[†], T. Borman[†], A. Kumar, X. Chen, A. Khosravani, S. R. Kalidindi, E. A. Paisley, M. Esters, C. Oses, C. Toher, S. Curtarolo, J. M. LeBeau, D. W. Brenner & J.-P. Maria, *Carbon Stoichiometry and Mechanical Properties of High Entropy Carbides*, Acta Mater. **215**, 117051 (2021). **DOI**: 10.1016/j.actamat.2021.117051. [PDF]
   [†] contributed equally

### 2020

24. A. G. Kusne[†], H. Yu[†], C. Wu, H. Zhang, J. Hattrick-Simpers, B. DeCost, S. Sarker, C. Oses, C. Toher, S. Curtarolo, A. V. Davydov, R. Agarwal, L. A. Bendersky, M. Li, A. Mehta & I. Takeuchi, *On-the-fly Closed-loop Autonomous Materials Discovery via Bayesian Active Learning*, Nat. Commun. **11**, 5966 (2020). **DOI**: 10.1038/s41467-020-19597-w. [PDF]
   [†] contributed equally

23. K. Kaufmann, D. Maryanovsky, W. M. Mellor, C. Zhu, A. S. Rosengarten, T. J. Harrington, C. Oses, C. Toher, S. Curtarolo & K. S. Vecchio, *Discovery of novel high-entropy ceramics via machine learning*, npj Comput. Mater. **6**, 42 (2020). **DOI**: 10.1038/s41524-020-0317-6. [PDF]

22. C. Oses, C. Toher & S. Curtarolo, *High-entropy ceramics*, Nat. Rev. Mater. **5**, 295–309 (2020). **DOI**: 10.1038/s41578-019-0170-8. [PDF]

   • This paper was highlighted as a "hot paper" by Web of Science (Clarivate Analytics) (November 16, 2021).

### 2019

21. D. C. Ford, D. Hicks, C. Oses, C. Toher & S. Curtarolo, *Metallic glasses for biodegradable implants*, Acta Mater. **176**, 297–305 (2019). **DOI**: 10.1016/j.actamat.2019.07.008. [PDF]

20. P. Avery, X. Wang, C. Oses, E. Gossett, D. M. Proserpio, C. Toher, S. Curtarolo & E. Zurek, *Predicting Superhard Materials via a Machine Learning Informed Evolutionary Structure Search*, npj Comput. Mater. **5**, 89 (2019). **DOI**: 10.1038/s41524-019-0226-8. [PDF]

19. C. Toher, C. Oses, D. Hicks & S. Curtarolo, *Unavoidable disorder and entropy in multi-component systems*, npj Comput. Mater. **5**, 69 (2019). **DOI**: 10.1038/s41524-019-0206-z. [PDF]

18. R. Friedrich, D. Usanmaz, C. Oses, A. R. Supka, M. Fornari, M. Buongiorno Nardelli, C. Toher & S. Curtarolo, *Coordination corrected ab initio formation enthalpies*, npj Comput. Mater. **5**, 59 (2019). **DOI**: 10.1038/s41524-019-0192-1. [PDF]

17. P. Nath, D. Usanmaz, D. Hicks, C. Oses, M. Fornari, M. Buongiorno Nardelli, C. Toher & S. Curtarolo, *AFLOW-QHA3P: Robust and automated method to compute thermodynamic properties of solids*, Phys. Rev. Mater. **3**, 073801 (2019). **DOI**: 10.1103/PhysRevMaterials.3.073801. [PDF]

### 2018

16. C. Oses, E. Gossett, D. Hicks, F. Rose, M. J. Mehl, E. Perim, I. Takeuchi, S. Sanvito, M. Scheffler, Y. Lederer, O. Levy, C. Toher & S. Curtarolo, *AFLOW-CHULL: Cloud-oriented platform for autonomous phase stability analysis*, J. Chem. Inf. Model. **58**(12), 2477–2490 (2018). **DOI**: 10.1021/acs.jcim.8b00393. [PDF]

15. C. Oses, C. Toher & S. Curtarolo, *Data-driven design of inorganic materials with the Automatic Flow Framework for Materials Discovery*, MRS Bull. **43**(9), 670–675 (2018). **DOI**: 10.1557/mrs.2018.207. [PDF]

14. P. Sarker[†], T. J. Harrington[†], C. Toher, C. Oses, M. Samiee, J.-P. Maria, D. W. Brenner, K. S. Vecchio & S. Curtarolo, *High-entropy high-hardness metal carbides discovered by entropy descriptors*, Nat. Commun. **9**, 4980 (2018). **DOI**: 10.1038/s41467-018-07160-7. [PDF]
   [†] contributed equally

13. V. Stanev, C. Oses, A. G. Kusne, E. Rodriguez, J. Paglione, S. Curtarolo & I. Takeuchi, *Machine learning modeling of superconducting critical temperature*, npj Comput. Mater. **4**, 29 (2018). **DOI**: 10.1038/s41524-018-0085-8. [PDF]

12. E. Gossett, C. Toher, C. Oses, O. Isayev, F. Legrain, F. Rose, E. Zurek, J. Carrete, N. Mingo, A. Tropsha & S. Curtarolo, *AFLOW-ML: A RESTful API for machine-learning prediction of materials properties*, Comput. Mater. Sci. **152**, 134–145 (2018). **DOI**: 10.1016/j.commatsci.2018.03.075. [PDF]
    - This paper was selected for Editors' Choice by Elsevier (2018).

11. D. Hicks, C. Oses, E. Gossett, G. Gomez, R. H. Taylor, C. Toher, M. J. Mehl, O. Levy & S. Curtarolo, *AFLOW-SYM: platform for the complete, automatic and self-consistent symmetry analysis of crystals*, Acta Cryst. A **74**, 184–203 (2018). **DOI**: 10.1107/S2053273318003066. [PDF]

### 2017

10. A. Hever, C. Oses, S. Curtarolo, O. Levy & A. Natan, *The structure and composition statistics of 6A binary and ternary structures*, Inorg. Chem. **57**(2), 653–667 (2017). **DOI**: 10.1021/acs.inorgchem.7b02462. [PDF]

9. F. Rose, C. Toher, E. Gossett, C. Oses, M. Buongiorno Nardelli, M. Fornari & S. Curtarolo, *AFLUX: The LUX materials search API for the AFLOW data repositories*, Comput. Mater. Sci. **137**, 362–370 (2017). **DOI**: 10.1016/j.commatsci.2017.04.036. [PDF]
    - This paper was selected for Editors' Choice by Elsevier (2017).

8. O. Isayev[†], C. Oses[†], C. Toher, E. Gossett, S. Curtarolo & A. Tropsha, *Universal Fragment Descriptors for Predicting Properties of Inorganic Crystals*, Nat. Commun. **8**, 15679 (2017). **DOI**: 10.1038/ncomms15679. [PDF]
    [†] contributed equally

7. C. Toher, C. Oses, J. J. Plata, D. Hicks, F. Rose, O. Levy, M. de Jong, M. Asta, M. Fornari, M. Buongiorno Nardelli & S. Curtarolo, *Combining the AFLOW GIBBS and elastic libraries to efficiently and robustly screening thermomechanical properties of solids*, Phys. Rev. Mater. **1**, 015401 (2017). **DOI**: 10.1103/PhysRevMaterials.1.015401. [PDF]

6. C. Nyshadham, C. Oses, J. E. Hansen, I. Takeuchi, S. Curtarolo & G. L. W. Hart, *A Computational High-Throughput Search for New Ternary Superalloys*, Acta Mater. **122**, 438–447 (2017). **DOI**: 10.1016/j.actamat.2016.09.017. [PDF]

5. S. Sanvito, C. Oses, J. Xue, A. Tiwari, M. Žic, T. Archer, P. Tozman, M. Venkatesan, J. M. D. Coey & S. Curtarolo, *Accelerated Discovery of New Magnets in the Heusler Alloy Family*, Sci. Adv. **3**(4), e1602241 (2017). **DOI**: 10.1126/sciadv.1602241. [PDF]

### 2016

4. A. van Roekeghem, J. Carrete, C. Oses, S. Curtarolo & N. Mingo, *High-Throughput Computation of Thermal Conductivity of High-Temperature Solid Phases: The Case of Oxide and Fluoride Perovskites*, Phys. Rev. X **6**(4), 041061 (2016). **DOI**: 10.1103/PhysRevX.6.041061. [PDF]

3. K. Yang, C. Oses & S. Curtarolo, *Modeling Off-Stoichiometry Materials with a High-Throughput Ab-Initio Approach*, Chem. Mater. **28**(18), 6484–6492 (2016). **DOI**: 10.1021/acs.chemmater.6b01449. [PDF]

### 2015

2. C. E. Calderon, J. J. Plata, C. Toher, C. Oses, O. Levy, M. Fornari, A. Natan, M. J. Mehl, G. L. W. Hart, M. Buongiorno Nardelli & S. Curtarolo, *The AFLOW Standard for High-Throughput Materials Science Calculations*, Comput. Mater. Sci. **108A**, 233–238 (2015). **DOI**: 10.1016/j.commatsci.2015.07.019. [PDF]
    - This paper was selected for Editors' Choice by Elsevier (2015).

1. O. Isayev, D. Fourches, E. N. Muratov, C. Oses, K. M. Rasch, A. Tropsha & S. Curtarolo, *Materials Cartography: Representing and Mining Materials Space Using Structural and Electronic Fingerprints*, Chem. Mater. **27**(3), 735–743 (2015). **DOI**: 10.1021/cm503507h. [PDF]
    - This paper was selected for Editors' Choice by the American Chemical Society (2015).

## BOOK PUBLICATIONS

### 2019

3. C. Toher, C. Oses & S. Curtarolo, *Automated computation of materials properties*, Materials Informatics: Methods, Tools and Applications, Ch. 7. **DOI**: 10.1002/9783527802265.ch7. [PDF]

### 2018

2. S. Sanvito, M. Žic, J. Nelson, T. Archer, C. Oses & S. Curtarolo, *Machine learning and high-throughput approaches to magnetism*, Handbook of Materials Modeling. Volume 2 Applications: Current and Emerging Materials. **DOI**: 10.1007/978-3-319-50257-1_108-1. [PDF]

1. C. Toher, C. Oses, D. Hicks, E. Gossett, F. Rose, P. Nath, D. Usanmaz, D. C. Ford, E. Perim, C. E. Calderon, J. J. Plata, Y. Lederer, M. Jahnátek, W. Setyawan, S. Wang, J. Xue, K. M. Rasch, R. V. Chepulskii, R. H. Taylor, G. Gomez, H. Shi, A. R. Supka, R. Al Rahal Al Orabi, P. Gopal, F. T. Cerasoli, L. Liyanage, H. Wang, I. Siloi, L. A. Agapito, C. Nyshadham, G. L. W. Hart, J. Carrete, F. Legrain, N. Mingo, E. Zurek, O. Isayev, A. Tropsha, S. Sanvito, R. M. Hanson, I. Takeuchi, M. J. Mehl, A. N. Kolmogorov, K. Yang, P. D'Amico, A. Calzolari, M. Costa, R. De Gennaro, M. Buongiorno Nardelli, M. Fornari, O. Levy & S. Curtarolo, *The AFLOW Fleet for Materials Discovery*, Handbook of Materials Modeling. Volume 1 Methods: Theory and Modeling. **DOI**: 10.1007/978-3-319-42913-7_63-2. [PDF]

## TEACHING EXPERIENCE

| | | |
|---|---|---|
| *Co-Instructor* | Spring 2021 | ME 555: Applications of Artificial Intelligence in Materials, Duke University Department of Mechanical Engineering and Materials Science |

| | | |
|---|---|---|
| *Teaching Assistant* | Spring 2020 | ME 555: Computational Materials Science by Examples and Applications, Duke University Department of Mechanical Engineering and Materials Science |
| *Teaching Assistant* | Fall 2014–Spring 2015 | ME 221: Structure and Properties of Solids, Duke University Department of Mechanical Engineering and Materials Science |

   • Best Teaching Assistant Award, August 14, 2015

## W O R K S H O P S

*AFLOW School: Integrated infrastructure for computational materials discovery*

**Co-Organizers**: D. Hicks, C. Toher, M. Esters, R. Friedrich, E. Gossett, A. Smolyanyuk, H. Eckert, S. Divilov, F. Rose, M. J. Brenner & S. Curtarolo

16. **Organizer and presenter** at Johns Hopkins University, Baltimore, Maryland — September 21, 2022.
    • "Introduction and AFLOW-ML: Machine Learning" recording: https://youtu.be/Xj5BGuFC9ew
15. **Presenter** for the Machine Learning for Materials Research Bootcamp of the University of Maryland/NIST/MRS, College Park, Maryland — August 11, 2022.
14. **Organizer and presenter** at the East African Institute for Fundamental Research, University of Rwanda, Kigali, Rwanda — February 21–24, 2022.
13. **Organizer and presenter** at the Technische Universität (TU) Dresden and Helmholtz-Zentrum Dresden-Rossendorf — September 6–10, 2021.
    • "Introduction to Density Functional Theory and VASP" recording: https://youtu.be/_RsQH3TY7kI
    • "AFLOW-CHULL: Thermodynamics" recording: https://youtu.be/zcY7gTZIB-Y
    • "AFLOW-POCC: Disorder" recording: https://youtu.be/lcDSYiF4AS4
12. **Organizer and presenter** at the University of Virginia, Charlottesville, Virginia — August 17, 2021.
    • "AFLOW-CHULL and AFLOW-CCE: Thermodynamics" recording: https://youtu.be/cLhOcN1sQ7M
11. **Presenter** for the Machine Learning for Materials Research Bootcamp of the University of Maryland/NIST, College Park, Maryland — July 29, 2021.
    • "AFLOW-ML: Machine Learning" recording: https://youtu.be/uFQ-lyTaxCc
10. **Organizer and presenter** at Texas A&M University, College Station, Texas — July 12–15, 2021.
    • "Introduction to Density Functional Theory and VASP" recording: https://youtu.be/KXnJGdVgosA
    • "AFLOW-CHULL and AFLOW-CCE: Thermodynamics" recording: https://youtu.be/ElaniAcrbhU
    • "AFLOW-POCC: Disorder" recording: https://youtu.be/D_cfHIlpBiA
9. **Session Chair** for the Virtual Spring Meeting of the Materials Research Society — April 17, 2021.
8. **Presenter** for the Materials 4.0 Summer School 2020 at the Dresden Center for Computational Materials Science (DCMS), Technische Universität (TU) Dresden — August 18, 2020.
    • "AFLOW-CHULL: Thermodynamics" recording: https://youtu.be/ncm356YNBVc
7. **Presenter** for the Machine Learning for Materials Research Bootcamp & Workshop on Machine Learning Microscopy Data of the University of Maryland/NIST, College Park, Maryland — July 23, 2020.
    • "AFLOW-ML: Machine Learning" recording: https://youtu.be/x2qeBtOXues
6. **Organizer and presenter** at Texas A&M University, College Station, Texas — June 16–18, 2020.
    • "Introduction to Density Functional Theory and VASP" recording: https://youtu.be/ChySAfo2w7g
    • "AFLOW-CHULL: Thermodynamics" recording: https://youtu.be/9Sa8D4inJ5w
    • "AFLOW-POCC: Disorder" recording: https://youtu.be/xr-mU-1ShQQ
5. **Presenter** for the Machine Learning for Materials Research Bootcamp & Workshop on Autonomous Materials Research of the University of Maryland/NIST, College Park, Maryland — August 05, 2019.
4. **Organizer and presenter** at the University of Pennsylvania, Philadelphia, Pennsylvania — May 03, 2019.
3. **Organizer and presenter** at the North Carolina State University, Raleigh, North Carolina — March 12, 2019.
2. **Organizer and presenter** at Carnegie Mellon University, Pittsburgh, Pennsylvania — January 21, 2019.
1. **Presenter** for the Machine Learning for Materials Research Bootcamp & Workshop on Machine Learning Quantum Materials of the University of Maryland/NIST/Moore Foundation, Institute for Bioscience & Biotechnology Research in Gaithersburg, Maryland — August 02, 2018.

## P R E S S   A N D   N E W S   R E L E A S E S

| | | |
|---|---|---|
| *White House Office of Science & Technology Policy* | November 18, 2021 | *"Featured Vignette in the November 2021 Materials Genome Initiative Strategic Plan (page 9)"* |
| | | mgi.gov/sites/default/files/documents/MGI-2021-Strategic-Plan.pdf |

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| *University of Buffalo* | September 2019 | *"Scientists predict new forms of superhard carbon"* |
| | | • This press release is featured on Phys.org, ScienceDaily, SciTechDaily, and Tribonet. |
| | | buffalo.edu/ubnow/stories/2019/09/zurek-superhard-carbon.html |
| *Duke University Pratt School of Engineering* | November 2018 | *"Disordered Materials Could Be Hardest, Most Heat-Tolerant Ever"* |
| | | • This press release is featured on AAAS EurekAlert!, Phys.org, ScienceDaily, Science Bulletin, Naaju, NewsBeezer, RemoNews, Tech2, and LongRoom News. |
| | | pratt.duke.edu/about/news/chaotic-carbides |
| *MRS Bulletin* | August 2017 | *"Universal fragment descriptor predicts materials properties"* |
| | | cambridge.org/core/journals/mrs-bulletin/news/universal-fragment-descriptor-predicts-materials-properties |
| *UNC Eshelman School of Pharmacy* | June 2017 | *"Breakthrough Tool Predicts Properties of Theoretical Materials, Finds New Uses for Current Ones"* |
| | | • This press release is featured on AAAS EurekAlert!, Phys.org, and ScienceDaily. |
| | | pharmacy.unc.edu/news/2017/06/06/breakthrough-tool-predicts-properties-theoretical-materials-finds-new-uses-current-ones/ |
| *Duke University Pratt School of Engineering* | April 2017 | *"Computers Create Recipe for Two New Magnetic Materials"* |
| | | • This press release is featured on Phys.org, Slashdot, Hacker News, Reddit, Engadget, Engineering.com, Science Alert, Azo Materials, Next Big Future, Futurism, New Atlas, and International Business Times. |
| | | pratt.duke.edu/about/news/predicting-magnets |
| *MRS Bulletin* | April 2015 | *"Materials fingerprints identified for informatics"* |
| | | doi.org/10.1557/mrs.2015.76 |
| *Computational Chemistry Highlights* | January 2015 | *"Materials Cartography: Representing and Mining Materials Space Using Structural and Electronic Fingerprints"* |
| | | compchemhighlights.org/2015/01/materials-cartography-representing-and.html |
| *Duke University Research* | January 2015 | *"Molecular Tornado"* |
| | | research.duke.edu/molecular-tornado |
| *Duke University Graduate School* | October 2014 | *"Competing for NSF Fellowships: Advice from a Current Fellow"* |
| | | gradschool.duke.edu/professional-development/blog/competing-nsf-fellowships-advice-current-fellow |
| *ERN Conference 2013* | February 2013 | *"2013 Oral and Poster Presentation Award Winners"* |
| | | new.emerging-researchers.org/2013-oral-and-poster-presentation-winners |

HONORS AND AWARDS

| | | |
|---|---|---|
| *Publication Award* | November 16, 2021 | "Hot paper", Publication in Nat. Rev. Mater., Web of Science (Clarivate Analytics) |
| | | • Published in the past two years and received enough citations in July/August 2021 to place it in the top 0.1% of papers in the academic field of Materials Science |
| *Publication Award* | 2021 | Editors' Highlight, Publication in Nat. Commun., Springer Nature |
| *Publication Award* | 2018 | Editors' Choice, Publication in Comput. Mater. Sci., Elsevier |
| *Publication Award* | 2017 | Editors' Choice, Publication in Comput. Mater. Sci., Elsevier |
| *Award* | August 14, 2015 | Best Teaching Assistant Award (ME 221), Duke University Department of Mechanical Engineering and Materials Science |
| *Publication Award* | 2015 | Editors' Choice, Publication in Comput. Mater. Sci., Elsevier |
| *Publication Award* | 2015 | Editors' Choice, Publication in Chem. Mater., American Chemical Society |
| *Fellowship* | 2013–2016 | Graduate Research Fellowship, National Science Foundation |

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| *Award* | August 22, 2013 | Best Presentation Award at the MEMS Departmental Retreat, Duke University Department of Mechanical Engineering and Materials Science |
| *Award* | March 02, 2013 | First Place in Nanoscience and Physics Research Presentation, NSF / AAAS / EHR Emerging Researchers National Conference |
| *Scholarship* | 2011–2013 | Shell Incentive Fund Scholarship |
| *Scholarship* | 2010 & 2011 | Xerox Corporation Scholarship |
| *Scholarship* | 2010 & 2011 | Intel Academic Award |
| *Grant* | June 18, 2010 | Cornell University Unmanned Air Systems Team awarded $1,000 grant, AUVSI Student Unmanned Aerial Systems Competition |
| *Scholarship* | Fall 2010 | Dean's Honor List, Cornell University College of Engineering |
| *Scholarship* | 2009–2013 | Meinig Family Cornell National Scholars |

- Awarded by Peter Meinig (Past Chairman of the Board of Trustees at Cornell University)