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Education:

University of Illinois at Urbana-Champaign	Ph.D.	1987	Physics
University of Maryland, Baltimore County	B.S.	1978	Physics

Professional Experience:

2011–p	Group Leader, Nanoscale Synthesis and Functional Assembly Group, Center for Nanophase Materials Sciences (CNMS), Oak Ridge National Laboratory (ORNL)
2001–p	Distinguished Research Staff, ORNL
1996–2001	Senior Research Staff, ORNL
1987–1996	R&D Staff, ORNL
1986–1987	Postdoctoral Associate, Electrical and Computer Engineering, University of Illinois at Urbana-Champaign (UIUC)

Professional Activities, Honors, Awards:

American Physical Society Fellow(2011)
Guadalupe Workshop on SWCNT Growth Mechanisms "Co-Chair" (2011; 2013; 2015)
SPIE Photonics West Conference "Co-Chair" (2004–2015)
Spring Materials Research Society Symposium "Co-Chair" (2008; 2010)
Department of Energy, Basic Energy Sciences Synthesis and Processing, Science Contractor's Meeting "Co-Chair" (2009)
International Conference on Laser Ablation "Distinguished Service Award" (2009)
Referee, Peer-Reviewed Journals: *Nature Communications, Nano Letters, ACS Nano, Small, Journal of Physical Chemistry C, Applied Physics Letters, Journal of Applied Physics, Applied Physics A, Applied Physics B, Carbon, Journal of Nanophotonics, EuroPhysics Letters*

Selected Peer-Reviewed Publications: (total > 200 refereed journal articles and conference proceedings, 5 book chapters, 13 issued U.S. patents, >5200 citations, h = 40)

D.B. Geohegan, A.A. Puretzky, M. Yoon, G. Eres, C. Rouleau, K. Xiao, J. Jackson, J. Readle, M. Regmi, N. Thonnard, G. Duscher, M. Chisholm, K. More, "Laser Interactions for the Synthesis and In Situ Diagnostics of Nanomaterials" Ch. 7 in *Lasers in Materials Science*, Springer Series in Materials Science **191**, 143-173 (2014). Springer International Publishing, Switzerland 2014.

M. Mahjouri-Samani, M. Tian, K. Wang, A. Boulesbaa, C.M. Rouleau, A.A. Puretzky, G. Eres, M.A. McGuire, B. R. Srijanto, K. Xiao, G. Duscher, and D.B. Geohegan, "Digital Transfer Growth of Patterned 2D Metal Chalcogenides by Confined Nanoparticle Evaporation," ACS Nano (2014). DOI: 10.1021/nn5048124

A.A. Puretzky, I.A. Merkulov, C.M. Rouleau, G. Eres, and D.B. Geohegan, "Revealing the surface and bulk regimes of isothermal graphene nucleation and growth on Ni with in situ kinetic measurements and modeling," *Carbon* **79**, 256 (2014).

X.F. Li, M. W. Lin, A.A. Puretzky, J.C. Idrobo, C. Ma, M.F. Chi, M. Yoon, C.M. Rouleau, I.I. Kravchenko, D.B. Geohegan, and K. Xiao, "Controlled Vapor Phase Growth of Single Crystalline, Two-Dimensional GaSe Crystals with High Photoresponse," *Scientific Reports* **4**, 5497 (2014).

G. Eres, M. Regmi, C.M. Rouleau, J.H. Chen, I.N. Ivanov, A.A. Puretzky, and D.B. Geohegan, "Cooperative Island Growth of Large-Area Single-Crystal Graphene on Copper Using Chemical Vapor Deposition," *ACS Nano* **8** (6), 5657 (2014).

C.M. Rouleau, C.Y. Shih, C. Wu, L.V. Zhigilei, A.A. Puretzky, and D.B. Geohegan, "Nanoparticle generation and transport resulting from femtosecond laser ablation of ultrathin metal films: Time-

resolved measurements and molecular dynamics simulations," *Applied Physics Letters* **104** (19), 193106 (2014).

M. Mahjouri-Samani, R. Gresback, M. Tian, K. Wang, A. A. Puretzky, C.M. Rouleau, G. Eres, I.N. Ivanov, K. Xiao, M.A. McGuire, G. Duscher, D.B. Geohegan, "Pulsed Laser Deposition of Photoresponsive Two-Dimensional GaSe Nanosheet Networks," *Advanced Functional Materials*, **24**, 6365-6371 (2014).

A.A.Puretzky, D.B. Geohegan, S. Pannala, C.M. Rouleau, M.Regmi, N.Thonnard, G. Eres, "Real-time optical diagnostics of graphene growth induced by pulsed chemical vapor deposition," *Nanoscale*, **5**, 6507 (2013).

K.R.S. Chandrakumar, J.D. Readle, C. Rouleau, A. Puretzky, D.B. Geohegan, K. More, V. Krishnan, M. K. Tian, G. Duscher, B. Sumpter, S. Irle, K. Morokuma, "High-temperature transformation of Fe-decorated single-wall carbon nanohorns to nanooysters: a combined experimental and theoretical study," *Nanoscale* **5**, 1849 (2013).

Collaborators from other Institutions:

S.S. Brown (U. Tenn., , TN), C. Brown (NIST), B.G. Burke (U. Va), T.A. Campbell (Va. Tech), L. Cao (NCSU), W.F. Carswell (Va. Tech), J. Chan (U. Va.), K.R.S. Chandrakumar (Kyoto U.), S. Chatterjee (Vanderbilt), W. Chen (Argonne), S. Das (U. Tenn.), W. Deng (U. Tenn., , TN), T. Do (Va. Tech), H.C. Dorn (Va. Tech Blacksburg, VA), J.J. Dubowski (U. de Sherbrooke, Quebec), W. Durant (Alabama), W. Feng (Harbin Inst. of Tech., China), W. Fu (Va. Tech), T. Fuhrer (Va. Tech), M. Garrett (Huazhong U. Sci. and Tech., China), N.S. Goroff (SUNY), C.P. Grey (SUNY), G. Gu (U. Tenn.,), G.P. Halada (SUNY), E. Harvie (Va. Tech), J. Hou (CAS, China), S. Hu (NCSU), P. Hu (Harbin Inst. of Tech., China), B. Hu (U. Tenn., , TN), H. Hu (Chase Corporation, Westwood, MA), L. Huang (North Carolina State University, Raleigh, NC), W. Huang (Va. Tech Blacksburg, VA), R.H. Hurt (Brown University, Providence, RI), S. Irle (Nagoya University, Nagoya, Japan), J. Jakowski (Argonne National Lab, Argonne, IL), Z. Jin (NCSU), A. Kane (Brown), K.W. Kim (NCSU), P.O. Krasnovf (Rice), V. Krishnan (U. Tenn.), I. Kulaots (Brown), D. Li (Alabama), Y. Liu (NCSU), J. Liu (Harbin Inst. of Tech., China), Y. Liu (NIST), X. Liu (Brown), J. Liu (Brown), L. Luo (SUNY), D. Mandrus (U. Tenn.), M.K. Manson (Va. Tech), Y. Miyamoto (NAIST, Tsukuba, Japan), K. Morokuma (Kyoto U., Japan), D. Neumann (NIST), L.V. Oakes (Vanderbilt), T. Orlando (Ga. Tech), R. Palmore (Brown), C. Pint (Vanderbilt), X.-F. Qiao (CAS, Beijing, China), A. Rodgers (Va. Tech), C.G. Rylander (Va. Tech), M.N. Rylander (Va. Tech.), S. Sarkar (Va. Tech), S. Sen (Brown), C.-Y. Shih (U. Va.), D. Sokolov (Ga. Tech.), D. Styers-Barnett (U. Indianapolis), L. Su (NCSU), J.N. Sun (J.A. Woolam Co., Lincoln, NE), Z. Sun (Alabama), P. Tan (CAS, Beijing, China), S. Torti (U. Connecticut), F. Träger (U. Kassel, Germany), X. Wang (Harbin Inst. of Tech., China), L. Wang (Harbin Inst. of Tech. China), W.J. Weber (U. Tenn.), Z. Wen (Harbin Inst. of Tech, China), A. Westover (Vanderbilt), J.R. Whitney (Va. Tech), C. Wilhelm (SUNY), K.A. Williams (U. Va.), C. Wu (U. Va. ,), H.Y. Xiao (U. Tenn., , TN), B.I Yakobson (Rice), J. Yan (U. Tenn.), C.N. Young (SUNY), T. Young (Va. Tech), Y. Yu (NCSU), Y. Zhang (NCSU), J. Zhang (Harbin Inst. of Tech.,China), X. Zhang (CAS, Beijing, China), J. Zhang (Va. Tech.), C. Zhang (Va. Tech), J. Zhang (Va. Tech), W. Zheng (Harbin Inst. of Tech.,China), L.V. Zhigilei (U. Va.))

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Total Graduate Students Advised: 1; Total Postdoctoral Scholars Advised: 11