

Dr. ELI SUTTER

Professor

Department of Mechanical and Materials Engineering
University of Nebraska-Lincoln
Lincoln, NE 68588
E-Mail: esutter@unl.edu; Tel.: (402) 472-2465

Education

Ph.D., Condensed Matter Physics, Sofia University, Sofia, Bulgaria.
M.S., Condensed Matter Physics, Sofia University, Sofia, Bulgaria.

Professional Experience

2015 – present, Professor (Tenure)
Department of Mechanical and Materials Engineering, University of Nebraska-Lincoln

2006 – 2015, Scientist with permanent appointment
Center for Functional Nanomaterials, Brookhaven National Laboratory

2004 – 2006, Associate Scientist
Center for Functional Nanomaterials, Brookhaven National Laboratory

2001– 2004, Assistant Professor (tenure-track)
Department of Physics, Colorado School of Mines

1998 – 2000, Research Assistant Professor
Department of Metallurgical and Materials Engineering, Colorado School of Mines

1997 - 1998, Research Associate
Department of Materials Science and Engineering, University of Wisconsin-Madison

1995 - 1996, Federal Postdoctoral Research Fellow
Laboratorium für Festkörperphysik, Swiss Federal Institute of Technology (ETH), Zürich, Switzerland

Selected Recent Professional Activities

2023 23rd American Conference on Crystal Growth and Epitaxy, Chair: Symposium: Nanocrystals, Quantum Dots and Nanowires

2017-2021 International Conference on Metallurgical Coatings and Thin Films(ICMCTF), Chair of Symposium F3: 2D Materials: Synthesis, Characterization, and Applications

2017 Chair: MRS Spring Meeting, Phoenix, AZ.

2016 Organizer: Workshop on “Solution-Phase Self-Assembly From Periodic Superlattices To Functional Hierarchical Architectures”, University of Nebraska-Lincoln, 09/22/2016.

2014 Co-Chair: International Conference on Nanoscience and Nanotechnology (ICN+T 2014), Vail, CO, USA.

2011 Organizer: International Workshop on “Epitaxial Graphene – from Science to Applications”, Annual User Meeting of the Center for Functional Nanomaterials and National Synchrotron Light Source, Brookhaven National Laboratory.

Honors and Awards

2015 Battelle Inventor of the Year Award.

2015 Long Island Technology Hall of Fame: Patent of the Year, Category: Innovation in Industry.

2013 Guest Professor (November 2013): Sorbonne/Université Pierre et Marie Curie, Paris, France.

2011 Editor's choice in Science: Ian S. Osborne, "Reflecting Atoms off Graphene"
Science 16 December 2011: 1473-1475.

2011 Sapphire Prize, Springer and Journal of Materials Science.

2011 Invited Talk at the Symposium in Honor of 100th Anniversary of Marie Curie's Nobel Prize for International Year of Chemistry, organized by Division of Physical Chemistry, at the 242 American Chemical Society Meeting.

2010 Thompson Reuters feature – Highly Cited Paper on Epitaxial Graphene.

2007 Scientific American 50 Award for leading Contributions to Science and Technology



Category: Ultra-Measurements
Development of a "Zeptoliter
Pipette".

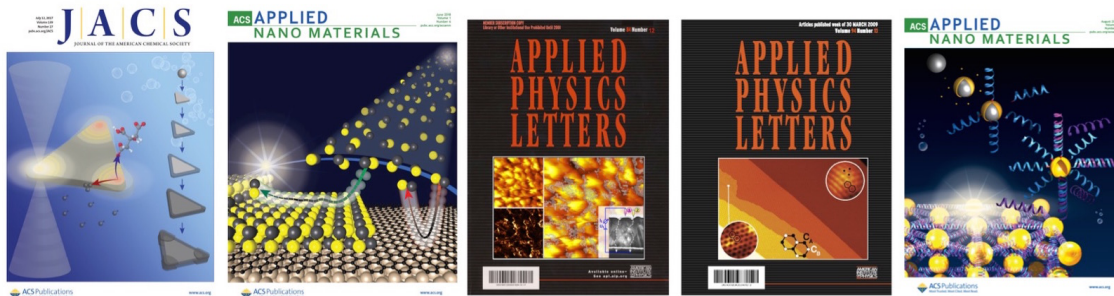
2004 American Physical Society Top Physics Discoveries of the Year.

1995 Swiss Federal Postdoctoral Fellowship.

Publications

Full list of publications can be found at <https://unlcms.unl.edu/engineering/mme/eli-sutter/publications>

Journal Covers



Recent Publications: 2020-2022

E. Sutter, H. P. Komsa, and P. Sutter, "Stacking Fault Induced Symmetry Breaking in van der Waals Nanowires", **ACS Nano** **16**, 21199 (2022).

E. Sutter, J. S. French, and P. Sutter, "Germanium Diselenide Ribbons with Orthorhombic Crystal Structure", **Nano Lett.** **22**, 7952 (2022).

E. Sutter, J. S. French, and P. Sutter, "Phase-Specific Vapor-Liquid-Solid Growth of GeSe and GeSe₂ Van der Waals Nanoribbons and Formation of GeSe-GeSe₂ Heterostructures", **Chem. Mater.** **34**, 8868 (2022).

- Andres Castellanos-Gomez, Xiangfeng Duan, Zhe Fei, Humberto Rodriguez Gutierrez, Yuan Huang, Jorge Quereda, Qi Qian, E. Sutter, and P. Sutter, “*Van der Waals Heterostructures*”, **Nature Reviews Methods Primers** **2**, 58 (2022).
- E. Sutter, J. S. French, and P. Sutter, “*Vapor-Liquid-Solid Growth of Large, Room-Temperature Luminescent Germanium Selenide van der Waals Ribbons*”, **Nanoscale** **14**, 6195 (2022).
- E. Sutter, H. P. Komsa, J. S. French, and P. Sutter, “*1D Germanium Sulfide van der Waals Bicrystals by Vapor-Liquid-Solid Growth*”, **ACS Nano** **16**, 3735 (2022).
- E. Sutter, R. Unocic, J.C. Idrobo, and P. Sutter, “*Multilayer Van der Waals Heterostructures with Sharp, Carrier-Transparent Lateral Interfaces*”, **Adv. Science** **9**, 2103830 (2022).
- P. Sutter and E. Sutter, “*Large-scale layer-by-layer synthesis of borophene on Ru(0001)*”, **Chem. Mater.** **33**, 8838 (2021).
- E. Sutter and P. Sutter, “*Ultrathin Twisted Germanium Sulfide van der Waals Nanowires By Bismuth Catalyzed Vapor-Liquid-Solid Growth*”, **Small**, 2104784 (2021).
- P. Sutter and E. Sutter, “*Unconventional van der Waals heterostructures: Beyond stacking*”, **iScience** **24**, 103050 (2021).
- E. Sutter, J. S. French, and P. Sutter, “*Tunable Layer Orientation and Morphology in Vapor-Liquid-Solid Growth of One-Dimensional GeS van der Waals Nanostructures*”, **Chem. Mater.** **33**, 3980 (2021).
- P. Sutter, J. S. French, L. Khosravi Khorashad, C. Argyropoulos, and E. Sutter, “*Optoelectronics and Nanophotonics of Vapor-Liquid-Solid Grown GaSe van der Waals Nanoribbons*”, **Nano Letters** **21**, 4335 (2021).
- P. Sutter, H.P. Komsa, H. Lu, A. Gruverman, and E. Sutter, “*Few-Layer SnS: Controlled Synthesis, Thickness Dependent Vibrational Properties, and Ferroelectricity*”, **Nano Today** **37**, 101082 (2021).
- P. Sutter and E. Sutter, “*Real-Time Electron Microscopy of Nanocrystal Synthesis, Transformations, and Self-Assembly in Solution*”, **Accounts of Chem. Research**, special issue on “*Transformative Inorganic Nanocrystals*” **54**, 11 (2021).
- P. Sutter, J.C. Idrobo, and E. Sutter, “*Van der Waals Nanowires with Continuously Variable Interlayer Twist and Twist Homojunctions*”, **Advanced Functional Mater.** **31**, 2006421 (2021).
- P. Sutter, L. Khosravi Khorashad, C. Argyropoulos, and E. Sutter, “*Nanometer-Scale Electron Beam Excitation and Spectroscopy of Ultrathin, Twisted van der Waals Nanoribbon Waveguides*”, **Advanced Materials** **33**, 2006649 (2021).
- E. Sutter, B. Zhang, and P. Sutter, “*Single-Strand DNA-Nanorod Conjugates - Tunable Anisotropic Colloids for On-Demand Self-Assembly*”, **J. of Colloid and Interface Science** **586**, 847 (2021).
- E. Sutter, J. Wang, and P. Sutter, “*Surface Passivation by Excess Sulfur for Controlled Synthesis of Large, Thin SnS Flakes*”, **Chem. Mater.** **32**, 8034 (2020).
- E. Sutter, J. Wang, and P. Sutter, “*Lateral Heterostructures of Multilayer GeS and SnS van der Waals Crystals*”, **ACS Nano**. **14**, 12248 (2020). E. Sutter, B. Zhang, and P. Sutter, “*DNA-Mediated Three-Dimensional Assembly of Hollow Au-Ag Alloy Nanocages as Plasmonic Crystals*”, **ACS Appl. Nano Mater.** **3**, 8068 (2020).
- E. Sutter, J. C. Idrobo Tapia, and P. Sutter, “*Synthesis and Optoelectronic Properties of Ultrathin Ga₂O₃ Nanowires*”, **J. Mater. Chem. C** **8**, 11555 (2020).
- E. Sutter, J. French, S. Sutter, J. C. Idrobo Tapia, and P. Sutter, “*Vapor-Liquid-Solid Growth and Optoelectronics of Gallium Sulfide van der Waals Nanowires*”, **ACS Nano** **14**, 6117 (2020).