Nick Lavrik
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Education:

Kyiv Polytechnic Univ., Kyiv, Ukraine.,	B.S. 1987, Electronic Engineering,
Kyiv State University, Kyiv, Ukraine	M.S. 1990, Electronics
Institute of Semiconductor Physics, Kyiv, Ukraine	Ph.D.1995, Physics

Professional Experience:

2016- present	Joint Faculty Professor at the University of Tennessee Bredesen Center for Interdisciplinary Research and Education
2012- present	Senior Research Staff, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2007- 2012	Research Staff, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2006- 2007	Research Staff, Nanophotonics Laboratory, Engineering Science and Technology Division, Oak Ridge National Laboratory
2001–2006	Postdoctoral Research Associate, Oak Ridge National Laboratory
1999–2001	Postdoctoral Research Associate, University of Tennessee, Knoxville, TN
1996-1999	Visiting Scholar, University of Illinois at Urbana-Champaign, IL
1991-1996	Research Staff, Institute of Semiconductor Physics, Kyiv, Ukraine
1988-1990	Research Associate, Institute of Semiconductor Physics, Kyiv, Ukraine

Honors and Awards:

2003	R&D 100 Award for Development of Uncooled IR camera
2008	ORNL Director's Award, Outstanding Team Accomplishment in Science and Technology
2010	R&D 100 Award for Ultrasensitive Nanomechanical Transducers Based on Nonlinear Resonance
2011	R&D 100 Award for Nano-Optomechanical Hydrogen Safety Sensor Based on Nanostructured Palladium Layers
2012	R&D 100 Award for Broadband Micromechanical Antenna
2020	ORNL Director's Award, Continuous Improvement Team Award

Professional Memberships and Activities:

American Vacuum Society
Reviewer for Nano Letters, ACS Nano, Nanotechnology, Applied Physics Letters, Thin Solid Films

Selected Recent Publications (Total > 160, Web of Science h-index 41, Google Scholar h-index 50):

1. Vlassiouk I., Smirnov S., Puretzky A., Olunloyo O., Geohegan D.B., Dyck O., Lupini A.R., Unocic R.R., Meyer III H.M., Xiao K. Briggs D., Lavrik N., Keum J., Cakmak E., Harris S.B., Checa M., Collins L., Lasseter J., Emery R., Rayle J., Rack P.D., Stehle Y., Chaturvedi P., Kidambi P.R., Gu G., Ivanov, I. 2024. Armor for Steel: Facile Synthesis of Hexagonal Boron Nitride Films on Various Substrates. *Advanced Materials Interfaces* 2024, 11(1), p.2300704.
2. Kim Y., Jahan U.M., Deltchev A.P., Lavrik N., Reukov V., Minko S. Strategy for Nonenzymatic Harvesting of Cells via Decoupling of Adhesive and Disjoining Domains of Nanostructured Stimulus-Responsive Polymer Films. *ACS Applied Materials & Interfaces* 2023, 15 (42), 49012-49021.
3. Rosenbohm J., Minnick G., Safa B.T., Esfahani A.M., Jin X., Zhai H., Lavrik, N.V., Yang R. A Multi-Material Platform for Imaging of Single Cell-Cell Junctions Under Tensile Load Fabricated with Two-Photon Polymerization. Biomedical Microdevices 2022, 24 (4), 33.
4. Minnick G., Safa B. T., Rosenbohm J., Lavrik N. V., Brooks J., Esfahani A. M., Samaniego A., Meng F.,

Richter B., Gao W., Yang R., Two-Photon Polymerized Shape Memory Microfibers: A New Mechanical Characterization Method in Liquid. *Advanced Functional Materials* 2022, 2206739.

5. Schaper N., Kim Y., Hensley D.K., Kravchenko I, Lavrik N., Pantano M., Kuljanishvili I. Enabling a Novel Approach to a Controlled Fabrication of 1D Crystalline Nanowires on Suspended Microstructures of Arbitrary Geometries Using Two Direct-writing Technologies. *Materials Today Nano* 2022, 20(1).
6. Esfahani AM, Rosenbohm J., Safa B.T., Lavrik N.V., Minnick G., Zhou Q., Kong F., Jin X., Kim E., Liu Y., Lu Y., Lim J.Y., Wahl J.K. 3rd, Dao M., Huang C., Yang R. Characterization of the Strain-rate-dependent Mechanical Response of Single Cell-Cell Junctions. *Proceedings of the National Academy of Sciences* 2021, 118(7).
7. Carbonization of 3D Printed Polymer Structures for CMOS-compatible Electrochemical Sensors. Haque M.A., Lavrik N.V., Hedayatipour A., Hensley D., Briggs D.P., *Journal of Vacuum Science & Technology B* 2020, 38 (5).
8. Cao Q., Shin M., Lavrik, N.V., Venton B.J. 3D-printed Carbon Nanoelectrodes for *in vivo* Neurotransmitter Sensing. *Nano Letters* 2020, 20 (9), 6831-6836.
9. Cao Q., Hensley D.K., Lavrik, N.V., Venton B.J. Carbon Nanospikes Have Better Electrochemical Properties than Carbon Nanotubes Due to Greater Surface Roughness and Defect Sites. *Carbon* 2020, 155, 250-257.
10. Chaturvedi P.; Vlassiouk I.V.; Cullen D. A.; Rondinone A. J., Lavrik N.V.; Smirnov, S.N., Ionic Conductance through Graphene: Assessing its Applicability as a Proton Selective Membrane. *ACS Nano* 2019, 13 (10), 12109-12119.
11. Lavrik N.V.; Datskos P.G. Optically read Coriolis Vibratory Gyroscope Based on a Silicon Tuning Fork. *Microsystems & Nanoengineering* 2019, 5 (1), 1-11.

Thesis Advisor and Postgraduate-Scholars Sponsor

Total graduate students advised and co-advised: 3

Total Postdoctoral Scholars Advised: 2