

Biographical Sketch
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Professional Preparation

B.S. Physics	Tbilisi State University, Tbilisi, Georgia
M.S. Physics	Michigan State University, MI , USA
Ph.D. Physics (Experimental Cond. Matter Phys. 2005)	Michigan State University, MI , USA

Appointments

Saint Louis University Department of Physics	Assistant Professor of Physics	Sept 2011- Present
Northwestern University, Department of Physics & Department of Mechanical Engineering	Post Doc Research Fellow	Dec 2006- 2011
Harvard University Department of Physics	Post Doc Research Scholar	Nov 2005-2006

Products

Intellectual Property (at SLU)

Inventors Group Leaders (*)

1. **U.S. Provisional Patent Application No. 62/423,912**, Filed: Nov 18, 2016, Entitled: Mask Free Methods Of Depositing Compositions To Form Heterostructures, SLU Ref.: 16-018, Other Ref. : USTL.P0081US.P1, (Inventors: ***I. Kuljanishvili**, R. Dong, L. Moore)
2. **U.S. Patent Application Serial No. 15/412,915**, Filed: January 23, 2017, Entitled: Methods of Transferring Carbon Nanotubes On A Hydrogel, SLU Ref.: 15-032; Other (SLS) Ref.: 3003528-0127, (Inventors: *S. Zustiak, M. Imaninezhad, ***I. Kuljanishvili**)

Submitted peer review journal (at SLU)

* Corresponding Author/s

- D. Alameri, L. Ocola and ***I. Kuljanishvili**, “Controlled selective growth of ZnO nanowires and nanoribbon arrays synthesized on precisely designed patterns of catalytic inks enabled by mask-free direct writing approach, MANUSCRIPT ID: NR-ART-03-2017-002054, (Submitted, March 2017)

Published in peer review journals

- R. Dong and ***I. Kuljanishvili**, *Review Article: Progress in Fabrication of transition metal dichalcogenites heterostructures systems*, J.Vac. Sci. Technol. B, 35(3), pp. 030803
- Y. Wang, D. Vasileva, S. Zustiak and ***I. Kuljanishvili**, "*Raman spectroscopy enabled investigation of carbon nanotube quality upon dispersion in aqueous environments*", *Biointerphases*, Vol. 12, (1) 011004 (2017); DOI: 10.1116/1.4978922
- R. Dong, L. Moore, N. Aripova, C. Williamson, R. Schurz, Y. Liu, L. E. Ocola, and ***I. Kuljanishvili**, *Bottom-up Approach to a Mask Free Selective Growth of WS₂/MoS₂ Heterostructure Systems,*” *RSC Advances*, 2016, 6, 66589–66594
- R. Dong, L. Moore, Leonidas E. Ocola and ***I. Kuljanishvili**, “*Enabling Quality Interfaces with Mask Free Approach to Selective Growth of MoS₂/Graphene Stacked Structures,*” *Advanced Materials Interfaces*, 2016, DOI:10.1002/admi.201600098 (published)
- M. Imaninezhad, ***I. Kuljanishvili**, *S. P. Zustiak "*A Two-Step Method for Transferring Single-Walled Carbon Nanotubes onto a Hydrogel Substrate*", *Macromol. Biosci.* 2016, DOI: 10.1002/mabi.201600261 (in press)
- K. Walsh, M.E. Romanowich, M. Gasseller, **I. Kuljanishvili**, R. Ashoori, *S.H. Tessmer, “*Scanning-probe single-electron capacitance spectroscopy*”, *J. Vis. Exp. (77)*, e50676, doi:10.3791/50676 (2013)
- M. Minary, R. A. Bernal, **I. Kuljanishvili**, V. Parpoil, *H. D. Espinosa, *Individual GaN Nanowires exhibit strong Piezoelectricity in 3D*, *Nano Lett.*, 2012, 12(2), 970-976
- ***I. Kuljanishvili**, D. Dikin, S. Rozhok, S. Mayle, *V. Chandrasekhar, *Controllable patterning and CVD growth of isolated carbon nanotubes with direct parallel writing of catalyst using Dip Pen Nanolithography*”, *Small*, Vol. 5, Issue 22, 2523, 2009, (Cover page article)
- **I. Kuljanishvili**, C. Kayis, *S. H. Tessmer, *C. Piermarocchi, T. Kaplan, L.N. Pfeiffer, K.W. West , *Scanning probe spectroscopy of semiconductor donor molecules*, *Nature Physics*, 4, 227-233, 2008, also see *Nature Physics News & Views* article by M.Y. Simmons: “*Probing dopants at atomic level*, 4,165-166, 2008
- *S. H. Tessmer, ***I. Kuljanishvili**, *Modeling single- and multiple-electron resonances for electric-field-sensitive scanning probe*, *Nanotechnology*, 445503, (2008)
- *S. H. Tessmer, **I. Kuljanishvili**, C. Piermarocchi, T. Kaplan, J. Harrison, “*Nanometer-scale capacitance spectroscopy of semiconductor donor molecules*”, *Physica B* (2008), doi:10.1016/j.physb.2008.07.003
- *G. Gabrielse, P. Larochele, D. Lesage, B. Levitt, W. S. Kolthammer, **I. Kuljanishvili**, R. McConnel, J. Wrubel, F.M Esser, H. Gluckler, D. Grzonka, G. Hansen, S. Martin, W. Oelert, J. Schillings, M. Schmitt, T. Sefzik, H. Soltner, Z. Zhang, D. Comeau, M.S. George, E. A. Hessels, C.H. Story, M. Weel, A. Speck, F. Nillius, J. Waltz, T.W. Hansch “*Antiproton Confinement in a Penning Trap for Antihydrogen*”, *PRL*, 98, 113002, 2007.
- **I. Kuljanishvili**, S. Chakraborty, I. J. Maasilta, *S. H. Tessmer, and M. R. Melloch, *Modeling electric field sensitive scanning probe measurements for a tip of arbitrary shape*, *Ultramicroscopy*. 102-1, 7-12, 2004.
- I. J. Maasilta, S. Chakraborty, **I. Kuljanishvili**, *S. H. Tessmer, and M. R. Melloch, “*Imaging a Two-Dimensional Electron System in a Quantizing Magnetic Field*, *Phys. Rev. B.* 68, 205328, 2003.

Published peer review Conference Proceedings

- M. I. Nezhad, ***I. Kuljanishvili**, *S. P. Zustiak, “*A novel method for transferring aligned single-walled carbon nanotubes on a hydrogel for nerve regeneration applications*”, AICHE Symposia Proceedings, Annual Fall Meeting, Salt Lake City, UT, November 2015.
- *S. E. Shafraniuk, * **I. Kuljanishvili**, *Electric Energy Generation By Arrays Of Carbon Nanotube Junctions*, Paper #: HP-007 Proceedings of The 27th Army Science Conference, November 29-December 2, 2010
- *S. H. Tessmer, **I. Kuljanishvili**, C. Piermarocchi, T. Kaplan, J. Harrison, “*Scanning Charge Accumulation Probe of Semiconductor Donor Molecules*”, AIP Conference Proceedings, Workshop on Mesoscopic Physics, WNMP07, 130-134, 2008 (best contributed paper)

Synergetic Activities

- Reviewer for Applied Physics Letters (APL), Physical Review B, Journal of Vacuum Sciences and Technologies B (JVSTB), Carbon (EES International Journal)
- Proposal Evaluation Board Member at Argonne National Laboratory
- Reviewer for NSF (served on a panel review committee, onsite) and Reviewer for Army Research Office (served review committee, remotely)
- Session Chair in 3rd International Conference and Exhibition on Materials Science & Engineering (Materials Science-2014) Oct 6-9, San Antonio, TX, 2014
- Organized Special Topics Workshop at APS/CNM Annual User Meeting, W10 “2D Materials Beyond Graphene: Exploring the Heterostructures”, May 9, 2016, (Moderated the Morning Panel Session)
- Developed new interdisciplinary course at SLU: Nanoscience and Nanofabrication Frontiers, (Fall 2013), (course is available to undergraduate and graduate students in STEM fields)