

CURRICULUM VITAE

Personal Data

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Google Scholar Link: <https://scholar.google.com/citations?user=VneirgMAAAAJ&hl=en>

Current Appointment

August 2017 –present

Assistant Professor, Department of Physics and Astronomy, Middle Tennessee State University

Education

- 2011** Ph. D. in Physics, Florida State University, USA.
Thesis: “Unconventional transport around metal-insulator transitions”.
Advisor: Prof. Vladimir Dobrosavljevic.
- 2005** M.Sc. in Physics, Minnesota State University, Mankato, USA.
- 2002** B. Sc. in Physics, Drohobych State Ivan Franko University,
Ukraine (*summa cum laude*).

Previous Appointments

- 2015 - 2017** Postdoctoral Research Fellow, Simons Many Electron Collaboration,
Department of Physics., University of Michigan. (prof. E. Gull)
- 2013 – 2014** Postdoctoral Researcher, Louisiana State University,
Center for Computation and Technology (prof. Mark Jarrell).
- 2011 – 2013** Postdoctoral Researcher, Brookhaven National Laboratory
(stationed at Louisiana State University (prof. Mark Jarrell).
- 2006 – 2011** Research Assistant, the Florida State University.

Teaching Experience

- 2017-present** Instructor Phys2011, ASTR 1031, Department of Physics and Astronomy, MTSU
- 2016 (Summer)** Lecturer, Department of Chemistry, University of Michigan.
- 2015, 2016** Substitute instructor of Computational Physics course, Department of Physics,

- University of Michigan.
- 2005, 2010** Teaching Assistant (Advanced Physics Laboratories, General Physics Studio class), Florida State University.
- 2003, 2005** Teaching Assistant (General Physics Labs , Introductory Phys.), Minnesota State University-Mankato.

Professional Development

2012 - Certificate of course completion on “Best Practices in Scientific Teaching in STEM” at Louisiana State University.

2015 - Certificate of course completion in “High-Impact Principles and Practices for STEM Education” course at the University of Michigan.

Awards and Honors

- 1) NSF Early CAREER Award (2020-2025). “CAREER: Beyond Ideal Quantum Materials: Understanding the Critical Role of Disorder and Electron-Electron Interactions”, Federal Award ID Number: 1944974
- 2) NSF research grant, PI (2019-2021), “Collaborative Research: Element: Development of MuST, A Multiple Scattering Theory based Computational Software for First Principles Approach to Disordered Materials”, Federal Award ID Number: 1931367.
- 3) Women in STEM, MTSU Women in STEM Center (November, 2018).
- 4) FRCAC award, Middle Tennessee State University (2018).
- 5) KITP Scholar Award 2018-2020, Kavli Institute for Theoretical Physics (2017).
- 6) Dirac-Hellman Award in Theoretical Physics, Florida State University (2011).
- 7) Second place in poster competition, International School and Symposium on Multifunctional Molecule-based Materials., Argonne National Laboratory (2011).
- 8) Distinguished Thesis Award for 2005-2006 year., Midwestern Association of Graduate Schools. (2006).
- 9) ICAM Travel Awards: to 1) Les Houches Summer School, France (2008) ; 2) XIV Training course in the Physics of SCS, Vietri sul Mare, Italy (2009); 3) Summer School-“New Phenomena in Quantum Matter”, Rio de Janeiro,Brazil, (2010).
- 10) Ukrainian government stipend for excellence in undergraduate study 1997-2003, Drohobych State Ivan Franko University. (1997-2003).

Research Interests

- Condensed matter theory
- Computational many-body physics
- Strongly correlated electrons
- Quantum criticality
- Disordered systems and localization
- Metal-Insulator transitions
- Topological Insulators.

Many-Body numerical methods development:

- quantum many-body numerical methods including non-local CTAUX,

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- effective medium embedding methods: Dynamical Mean Field Theory (DMFT), Dynamical Cluster Approximation (DCA), dual fermion method, typical medium (TM-DCA), KKR.

Non-Credit Instruction Taught

- Virtual Workshop for Undergraduate Students: “Computational modeling of disordered quantum materials”, July 24th, 2020.
- Workshop, Louisiana State University, Center of Computational Technologies, 15 participants. (May 26, 2019 - May 31, 2019).

Contracts. Fellowships. Grants and Sponsored Research

- 1) Terletska, H. (PI), "NSF CAREER: Beyond ideal quantum materials: understanding the critical role of disorder and electron-electron interactions.," Sponsored by National Science Foundation, Federal, \$499,880.00. (May 1, 2020 - April 30, 2025).
- 2) Terletska, H. (PI), "NSF-OAC- #1931367 Collaborative Research: Element: Development of MuST, A Multiple Scattering Theory based Computational Software for First Principles Approach to Disordered Materials.," Sponsored by National science Foundation, Federal, \$135,000.00. (October 1, 2019 - September 30, 2022).
- 3) Terletska, H. (PI), "CNMS User Proposal: The fate of Mott metal-insulator transition in two-dimensional Hubbard model: large cluster DCA study.," Sponsored by Oak Ridge National Laboratory, Federal. (February 1, 2020 - January 31, 2021).
- 4) Terletska, H. (PI), "XSEDE allocation computer time grant: Investigation of the extended Hubbard model using two-particle probes.," Sponsored by NSF XSEDE, Federal. (June 1, 2019 - May 30, 2020).
- 5) Terletska, H. (PI) "CNMS User Proposal: Effect of non-local Coulomb interactions on correlated phases in the extended Hubbard," Sponsored by Oak Ridge National Laboratory, Federal. (February 1, 2018 - January 31, 2020).
- 6) Terletska, H. M. (PI), "FRCAC 2018 Spring Re-Submission: Computational studies of complex behavior in strongly correlated and disordered quantum materials.," Sponsored by FRCAC, Middle Tennessee State University, \$7,621.00. (May 1, 2018 - August 21, 2018).
- 7) Terletska, H. M. (Principal), "MTSU Women in Physics Group," Sponsored by American Physical Society, Federal, \$1,000.00. (November 1, 2018 - October 30, 2019).
Service grant.

Under Review:

- 1) NSF-XSEDE supercomputer time, “Investigating extended Hubbard model using two-particle probes”, submitted July 14th, 2020.
- 2) Cottrell Scholar Award grant, “Understanding and Harnessing the role of disorder in quantum materials”, submitted July 1, 2020.
- 3) DOE INCITE supercomputer time, “Disorder and Statistical Mechanics of Alloys and Functional Materials”, submitted June 19, 2020.

Professional Services

- Referee for APS Physical Review Letters, Physical Review B, Journal of Electronic Materials, Physica B.
- Reviewer for ORNL CNMS user proposals (every 6 months).

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- NSF grant reviewer (2017-present)
- DOE grant reviewer (2017-present).
- NSF panel reviewer (CSSI, GRFP), January 2020.
- NSF XSEDE Panel Reviewer (every quarter).

Membership American Physical Society.

Directed Student Learning

- 1) Undergraduate Honors Thesis Supervisor, "Disordered superconductors" (August 1, 2019 - May 1, 2020).
Advised: Jaron Hengstenberg. I have been conducting undergraduate research with Mr. Jaron Hengstenberg since Fall 2019. Jaron is working on the numerical study of electron localization in superconductors with the disorder. He is planning to complete his Honors B. Sc. Thesis in Spring 2020.
- 2) Undergraduate Thesis Supervisor, "Disordered electron systems: a quantum cluster model" (January 1, 2018 - May 1, 2020).
Advised: Aric Moilanen. I have been Mr. Aric Moilanen's research supervisor since Spring 2018. Aric has been conducting research on the method development for the numerical study of electron systems with a strong disorder. Aric is planning to defend his B. Sc. thesis in Spring 2020.
- 3) Undergraduate Thesis Supervisor, "Disorder driven metal-insulator transition" (August 1, 2017 - December 13, 2018).
Advised: Ryan Florida. I supervised Mr. Ryan Florida in conducting his computational research through Fall 2017-Fall 2018. Ryan has completed his B. Sc. Thesis in Fall 2018. Mr. Florida is not an IT specialist in Nashville area.
- 4) Undergraduate Thesis Supervisor, "Numerical study of the interaction driven metal-insulator transition using DMFT" (August 1, 2017 - May 1, 2018).
Advised: Kristin Barton. I supervised Ms. Kristin Barton in conducting her research through Fall 2017-Spring 2018 and her B. Sc. Thesis writing. Kristin is now a graduate student in the University of Michigan, Physics Department.
- 5) Ph.D. Thesis Co-Supervisor, Joseph Paki, University of Michigan (2017-2019). Chinedu Ekuma, Louisiana State University (2011-2013), Conrad Moore, Louisiana State University (2011-2013), Elisha Siddique, Louisiana State University (2013).

Student Mentoring

- 1) George Boktor (Undergraduate). December 1, 2019 - February 25, 2020, REU application.
- 2) Jerry Argo (Undergraduate). December 1, 2019 - February 20, 2020, REU application.
- 3) Aric Moilanen (Undergraduate). November 1, 2019 - December 25, 2019, Grad. School application.

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- 4) Aric Moilanen (Undergraduate). September 1, 2019 - October 27, 2019, NSF GRFP application.
- 5) Aric Moilanen (Undergraduate). December 1, 2018 - February 25, 2019, REU application.
- 6) Benjamin Kulas (Undergraduate). December 1, 2018 - January 30, 2019, Grad. School application.
- 7) Eden Ross (Undergraduate). September 1, 2017 - May 1, 2018, Grad. School application.
- 8) Stephanie Lough (Undergraduate). December 1, 2017 - March 30, 2018, Bridge program application.
- 9) Bassam Aboona (Undergraduate). December 1, 2017 - January 30, 2018, Grad. School application.
- 10) Kristin Barton (Undergraduate). December 1, 2017 - January 30, 2018, SULI application.
- 11) Kristin Barton (Undergraduate). December 1, 2017 - January 15, 2018, Grad. school application.
- 12) Kristin Barton (Undergraduate). September 1, 2017 - November 1, 2017, NSF GRFP application.
- 13) Ryan Florida (Undergraduate). September 1, 2017 - November 1, 2017, NSF GRFP application.

Collaborators

Emanuel Gull (University of Michigan), Thomas Maier (ORNL), Vladimir Dobrosavljevic (Florida State University), Wei Ku (Brookhaven National Lab), Tom Berlijn (Oak Ridge National Laboratory), Mark Jarrell (Louisiana State University), Juana Moreno (Louisiana State University), Darko Tanaskovic (Belgrade University, Serbia), Zi Yang Meng (China Academy of Science), Liviu Chioncel (Germany, University of Augsburg), Dieter Vollhardt (Germany, University of Augsburg), Markus Eisenbach (Oak Ridge National Laboratory), Yang Wang (Pittsburg Supercomputing Center).

Media Appearances and Interviews

- 1) MTSU Out of the Blue, "Hanna Terletska named top professor by National Science Foundation", May 2020 <https://www.youtube.com/watch?v=Df18LAOe4uk>.
- 2) MTSU NEWS "MTSU firsts: Jones, Terletska receive prestigious National Science Foundation grants", March 2020, <https://mtsunews.com/pair-receive-prestigious-nsf-grants/>.
- 3) "MTSU assistant professors achieve early success.," MTSU Research and Sponsored Programs Bulletin. (November 1, 2019).
- 4) "MTSU center marks 10 years of advocating for more women in STEM," <https://mtsunews.com>. (October 11, 2019). Together with Dr. Judith Eridith-Gross and Lisa Reaney I was organizing the 10th year anniversary of MTSU WISTEM center. (see 4.5 sec).
- 5) "Interview: The Changing Faces of STEM," MTSU Innovation magazine. (January 4, 2019).
- 6) "MTSU Physics Faculty Member Receives Prestigious Kavli Scholar Award.," <http://mtsunews.com>. (December 20, 2017).
- 7) "MTSU Physics Faculty Member Receives Prestigious Kavli Scholar Award," murfreesboro.com. (December 1, 2017).
- 8) Some of my work has received online media coverage in a popular Condensed Matter Concepts Blog by Prof. Ross H. McKenzie: "Scaling plots near the Mott transition", October 31, 2012., "Quantum criticality near the Mott transition in organics?", March 2, 2015.

Publication List

While at MTSU:

1. Ostlin, A., Zhang, Y., **Terletska, H.**, Beiu, F., Popescu, V., Byczuk, K., Vitos, L., Jarrell, M., Vollhardt, D., Chioncel, L., “Ab initio typical medium theory of substitutional disorder”, *Phys. Rev. B*, 101(1), 014210 (2020).
2. Y. Zhang, **H. Terletska**, K. -M. Tam, Wang, Y., Eisenbach, M., Chioncel, L., Jarrell, M., “Locally self-consistent embedding approach for disordered electronic systems”, *Phys. Rev. B*, 100(5), 054205 (2019).
3. Paki, J., **Terletska, H.**, Iskakov, S., Gull, E., “Charge order and antiferromagnetism in the extended Hubbard model”, *Phys. Rev. B*, 99(24), 245146 (2019).
4. Zhang, Y., Nelson, R., Tam, K.-M., Ku, W., Yu, U., Vidhyadhiraja, N. S., **Terletska, H.**, Moreno, J., Jarrell, M., Berlijn, T., “Origin of localization in Ti-doped Si”. *Phys. Rev. B*, 98(17), 174204 (2018).
5. **Terletska, H.**, Zhang, Y., “Review: Systematic quantum cluster typical medium method for the study of localization in strongly disordered electronic systems”, *App. Sci.*, 8(12) (2018).
6. **Terletska, H.**, Chen, T., Paki, J., Gull, E., “Charge ordering and nonlocal correlations in the doped extended Hubbard model”, *Phys. Rev. B*, 97(11), 115117 (2018).
7. M. Wallerberger, S. Iskakov, A. Gaenko, J. Kleihez, I. Krivenko, R. Levy, J. Li, H. Shinaoka, S. Todo, T. Chen, X. Chen, J. P. F. LeBlanc, J. E. Paki, **H. Terletska**, M. Troyer, E. Gull, “Updated Core libraries of the ALPS Project”, submitted to *Comput. Phys. Commun.*, arXiv 1811.08331 (2018).
8. **H. Terletska**, Y. Zhang, L. Chioncel, D. Vollhardt, M. Jarrell, “Typical-medium, multiple-scattering theory for disordered systems with Anderson localization”, *Phys. Rev. B* 95, 134204 (2017).
9. **H. Terletska**, T. Chen, E. Gull, “Effects of non-local Coulomb interactions in two-dimensional electron systems”, *Phys. Rev. B* 95, 115149 (2017).
10. S. Sen, **H. Terletska**, J. Moreno, N. S. Vidhyadhiraja, M. Jarrell, “A local theory for Mott-Anderson localization”, *Phys. Rev. B* 94, 235104 (2016).
11. Y. Zhang, **H. Terletska**, C. Moore, C. Ekuma, K.-M. Tam, T. Berlijn, W. Ku, J. Moreno, M. Jarrell, “Study of multiband disordered systems using the typical medium dynamical cluster approximation”, *Phys. Rev. B* 92, 205111 (2015).
12. C. E. Ekuma, C. Moore, **H. Terletska**, K.-M. Tam, N. S. Vidhyadhiraja, J. Moreno, M. Jarrell “Finite Cluster Typical Medium Theory for Disordered Electronic Systems”, *Phys. Rev. B* 92, 014209 (2015).
13. C. E. Ekuma, S. -X. Yang, **H. Terletska**, K.-M. Tam, N. S. Vidhyadhiraja, J. Moreno, M. Jarrell, “Metal-insulator-transition in a weakly interacting Disordered Electron System ”, *Phys. Rev. B* 92, 201114 (2015).
14. **H. Terletska**, C. E. Ekuma, C. Moore, K. M. Tam, J. Moreno and M. Jarrell, “Study of off-diagonal disorder using the typical medium dynamical cluster approximation ”, *Phys. Rev. B* 90, 094208 (2014).
15. C. E. Ekuma, **H. Terletska**, Z. Y. Meng, K. M. Tam, J. Moreno and M. Jarrell, “A Typical Medium Dynamical Cluster Approximation for the study of Anderson localization in three dimensions ”, *Phys. Rev. B* 89, 081107(R) (2014).
16. Chinedu E. Ekuma, **Hanna Terletska**, Zi Yang Meng, Juana Moreno, Mark Jarrell, Samiyeh Mahmoudian, Vladimir Dobrosavljevic, “Effective Cluster Typical Medium Theory for Diagonal Anderson Disorder Model in One- and Two-Dimensions ”, *J. Phys.: Condens. Matter* 26 274209 (2014).
17. S.-X. Yang, P. Haase, **H. Terletska**, T. Pruschke, J. Moreno, and M. Jarrell “Dual-fermion approach to interacting disordered fermion systems”, *Phys. Rev. B* 89, 195116 (2014).

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18. S.-X. Yang, **H. Terletska**, Z. Y. Meng, J. Moreno, M. Jarrell, “Mean-field embedding of the dual fermion approach for correlated electron systems”, Phys. Rev. E 88, 063306 (2013).
19. J. Vučićević, **H. Terletska**, D. Tanasković, and V. Dobrosavljević, “Finite-temperature crossover and the quantum Widom line near the Mott transition”, Phys. Rev. B 88, 075143 (2013).
20. **H. Terletska**, S.-Y. Yang, J. Moreno and M. Jarrell, “Dual fermion method for disordered electronic systems” Phys. Rev. B 87, 134208 (2013).
21. **H. Terletska**, J. Vucicevic, D. Tanaskovic and V. Dobrosavljevic, “Quantum Critical Transport near the Mott Transition, Phys. Rev. Lett. 107, 026401 (2011).
22. **H. Terletska** and V. Dobrosavljevic, “Fingerprints of intrinsic phase separation: magnetically doped two-dimensional electron gas”, Phys. Rev. Lett. 106, 186402 (2011).
23. Y. Pramudya, **H. Terletska**, S. Pankov, E. Manousakis and V. Dobrosavljevic, “Nearly-frozen Coulomb liquids”, Phys. Rev. B 84, 125120 (2011).
24. Y. Pramudya, **H. Terletska**, S. Pankov, E. Manousakis and V. Dobrosavljevic, “Geometrically-frustrated pseudogap phase of Coulomb Liquids”, Physica B 407 (11), 1711-1714 (2012).
25. **H. Terletska** and V. Dobrosavljevic, “Experimental signatures of intrinsic phase separation in magnetically doped two-dimensional electron gas”, AIP Conf. Proc., 1297 (1), 438-442 (2010).
26. I. Kogoutiok and **H. Terletska**, “The investigation of the band-filling and pressure effects in the two-band periodic Anderson model”, Physica B: Physics of Condensed Matter v. 378-380, 696 (2006).
27. I. Kogoutiok and **H. Terletska**, “Investigation of the density of states in the non half-filled two band periodic Anderson model”, International Journal of Modern Physics B, 20, No. 21, 3101 (2006).

Talks

1. **Hanna Terletska**, invited talk, "Numerical studies of quantum materials with strong electron-electron interactions and disorder.", Vanderbilt CM Seminar (invited talk), 11/6/2020.
2. **Hanna Terletska**, Texas Tech University, Physics Colloquium (talk), "Understanding quantum materials with strong electron-electron interactions and disorder through computational tools", 10/20/2020.
3. Hanna Terletska, **invited talk**, “Electron Localization”, virtual conference, Japan, August 24-29, 2020.
4. Hanna Terletska, **invited poster talk**, ORNL CNMS virtual annual meeting, August 11, 2020.
5. Hanna Terletska, **virtual workshop talk**:” Modeling quantum materials with disorder”, July 2020.
6. Hanna Terletska, **invited talk**, APS March Meeting, 2020 (canceled due to COVID-19)
7. Hanna Terletska, **invited talk**, Aspen Winter workshop, ”Quantum critical in Hubbard model and beyond”, March 2020.
8. Hanna Terletska, **invited talk**, Louisiana State University, Mark Jarrell Symposium, February 2020.
9. Hanna Terletska, **invited talk**, “Modeling electron localization in disordered materials,” TETI All-Hands Meeting, Purdue University, West Lafayette, IN, United States of America, September 20, 2019.
10. Hanna Terletska, **invited talk**, “Numerical Studies of Competing Phases of Matter in Hubbard Model and Beyond”, CNMS Annual Meeting 2019, Oak Ridge National Lab, August 13, 2019.

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11. Hanna Terletska, **invited talk**, MTSU Chemistry Department seminar, "Invited talk: Understanding quantum material challenges using computers.," Middle Tennessee State University, Murfreesboro, TN, United States of America., October 25, 2019.
12. Hanna Terletska, "Numerical studies of quantum materials", **invited talk**, University of Tennessee-Knoxville, JIAM, 04/26/2019.
13. Hanna Terletska, "Understanding quantum materials using computational methods ", **invited talks**, Case Western Reserve University, condensed matter seminar, Cleveland, OH, 02/27/2019.
14. **Hanna Terletska**, H. Paki, S. Iskakov, E. Gull, " Electron localization in 2D extended Hubbard model", APS March meeting, Boston, MA, USA, 03/04/2019- 03/09/2019.
15. "Electron localization in 2D extended Hubbard model", **invited talk**, Brookhaven Nat. Lab., Center of Computational Sciences 2018 Fall 2018 workshop, 09/30/2018.
16. "Electron localization in two-dimensional extended Hubbard model", APS Southeastern section, Knoxville , 11/9/2018.
17. "Electron localization in Hubbard model and beyond", **invited talk**, material science and technology division materials theory group, Oak Ridge National Lab (05/04/2018).
18. "Understanding quantum materials through computational methods", Colloquium, Center of Computational Science, MTSU (04/20/2018).
19. DCA study of two-dimensional extended Hubbard model", cond. matter. physics seminar, University of Michigan (01/11/2018).
20. "Charge order and non-local correlations in the doped two-dimensional extended Hubbard model", APS March Meeting, Los Angeles, CA (03/06/2018).
21. "Phase transitions in 2D extended Hubbard model", talk at 2017 Simons Collaboration on the Many Electron Problem Summer School, 06/16/2017-06/23/2017.
22. "Understanding Correlated Electron Systems Through Computational Methods", **invited talk**, Physics Seminar, Lawrence Technological University , March 2, 2017.
23. "Numerical Studies of Correlated Electron Systems ", **invited talk**, Physics Seminar, University of Wisconsin-Whitewater , February 22, 2017.
24. "Understanding Correlated Electron Systems Using Computational Methods", **invited talk**, Physics Seminar, University of Texas-El Paso , January 26, 2017.
25. "Numerical Studies of Correlated Electron Systems ", **invited talk**, Physics Seminar, Middle Tennessee State University , January 19, 2017.
26. "Effect of non-local interactions and correlations in two-dimensional extended Hubbard model", talk presented at APS March Meeting, New Orleans, March 17, 2017.
27. "Continuous time auxiliary field quantum Monte Carlo study of charge ordering in two-dimensional extended Hubbard model", talk presented at APS March Meeting, Baltimore, March 16, 2016.
28. "Anderson localization for chemically realistic systems", **invited talk** at APS March Meeting, San Antonio, March 5, 2015.
29. "Dynamical cluster approximation and typical medium analysis of systems with off-diagonal disorder", talk presented at APS March Meeting, Denver, March 4, 2014.
30. "Dual fermion method for disordered electronic systems", talk presented at APS March Meeting, Baltimore, March 21, 2013.
31. "Cluster Typical Medium Theory for Disordered Systems ", **invited talk** at LONI HPC user symposium, LSU June 7, 2012.
32. "Extension of Dual-fermion Method to Systems with Disorder", **invited talk** at the Department of Physics, Georgetown University April 4, 2012.
33. "Application of dual fermion method to systems with disorder", talk at Condensed Matter Group meeting, Department of Physics and Astronomy, LSU, March 9, 2012.
34. "Application of dual fermion method to systems with disorder", talk at Condensed Matter

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- Group meeting, Department of Physics and Astronomy, LSU, March 9, 2012.
35. "Extension of dual-fermion formalism towards disordered systems", talk presented at APS March Meeting, Boston, February 27, 2012.
 36. "Disorder and localization: extension of dual-fermion formalism towards disordered systems", talk at CMCSN Meeting, Boston, February 26, 2012.
 37. "Unconventional transport around metal-insulator transition", **invited talk**, CM seminar Brookhaven National Lab, September 27, 2011.
 38. "Towards a multiscale formalism for disordered systems", **invited talk**, applied analysis seminar, Department of Mathematics, LSU, October 17, 2011.
 39. "Quantum Critical Transport Near the Mott Transition", group talk at 280 Nicholson Hall, LSU August 12, 2011.
 40. "Theoretical perspective on nearly frozen coulomb liquids", talk presented at APS March Meeting, Dallas, 2011.
 41. "Finite temperature quantum critical transport near the Mott transition", talk presented at APS March Meeting, Portland, 2010.
 42. "Nano-scale phase separation in magnetically doped two-dimensional electron gas", talk presented at XIV Training course in the Physics of SCS, Vietri sul Mare, Italy, 2009.
 43. "Fingerprints of intrinsic phase separation", talk presented at APS March Meeting, Pittsburgh, 2009.

Posters

1. Together with MTSU UG students, CBAS Virtual Poster, 2020
2. NSF PI meeting, "MusT Collaborative Project", Seattle, OR, February 14-15, 2020.
3. "Beyond Hubbard Model: effect of inter-site interactions on phase transitions in 2D extended Hubbard.", Simons Foundation, New York, New York, NY, February 14, 2019.
4. "Effect of non-local correlations and doping on charge ordered and Mott insulating phases", Gordon Research Conference on Correlated Electron Systems, 06/24/2018-06/29/2018, Mount Holyoke College in South Hadley, MA.
5. "Numerical studies of competing phases of matter in 2D extended Hubbard model", MICDE Annual Symposium, April 18, 2017, University of Michigan.
6. "Charge order in extended Hubbard model", Many Electron Collaboration Annual Meeting, February 16-17, 2017, the Simons Foundation, New York.
7. "Non-local correlations beyond Hubbard model", Many Electron Collaboration Annual Meeting, February 18-19, 2016, the Simons Foundation, New York.
8. "Quantum Critical Transport near the Mott Metal-insulator Transition", International School & Symposium on Multifunctional Molecule-based Materials (**2nd place in poster competition**), Argonne National Laboratory, IL, March 13-18, 2011.
9. "Quantum critical transport near the finite temperature Mott metal-insulator transition", 4th I2CAM/FAPERJ Summer School-"New Phenomena in Quantum Matter", Rio de Janeiro, Brazil, June 6-12, 2010.
10. "Band-filling Effects on the modified Periodic Anderson Model", APS March Meeting, Los Angeles, USA, 2005.

Panel Speaker

1. H. Terletska, Celebrating the Women of Physical Science Panel, "Panel talk: Women in Physics," Belmont University, Nashville, TN, United States of America. (November 4, 2019).
2. H. Terletska, Conference for Undergraduate Women in Physics, "Panel talk: Going to graduate school in physics.," APS, University of Alabama, Tuscaloosa, AL (January 19, 2019).
3. H. Terletska, Conference for Undergraduate Women in Physics, "Panel talk: Frontiers in condensed matter physics.," APS, University of Alabama, Tuscaloosa, AL (January 18, 2019).
4. H. Terletska, "Panel talk: thinking of going to a graduate school?," Middle Tennessee State University, Department of Physics and Astronomy, Murfreesboro, TN.

Public Outreach

- Faculty mentor for Women in Physics Group at MTSU 2017-present.
- Organizer, Annual EYH Physics workshop "Physics Fun" for high-school and middle school girls. (February 28, 2018 – Present. EYH physics workshops: Spring 2018, Fall 2018, and Fall 2019).
- Judge, Science Olympiad, MTSU. (February 24, 2018).
- Presenter at demos at Florida State University Day at the Capitol in 2011.
- Presenter at the nano-day event in Louisiana STEM Expo (2013).

University Service

1. CBAS 2019-2022 Research Committee Member, MTSU. (August 1, 2019 - Present).
2. URECA 2019-2020 Committee Member, MTSU. (August 1, 2019 - June 1, 2020).
3. WISTEM Board Member, MTSU. (January 1, 2019 - Present).
4. Panel Discussion Organizer, Department of Physics and Astronomy, MTSU. (February 24, 2018 - Present). This includes, "My REU and SULI research experience" (Spring 2018), "Going to graduate school" (Fall 2018), "REU Workshop" (Fall 2019), "REU application writing meetup" (Fall 2019), "Winning National Fellowships" (Spring 2020).
5. Expanding Your Horizons Organization Committee Member, EYH, MTSU. (January 1, 2018 - Present).
6. MTSU Women in Physics Group Mentor. (August 1, 2017 - Present)
7. Search committee member for the Full-time Temporary Faculty, Summer 2019, Department of Physics and Astronomy, MTSU. (June 5, 2019 - July 30, 2019).
8. Poster Judge, CBAS Scholar Week Poster Competition 2019. (March 18, 2019).
9. Search committee member for the Full-time Temporary Faculty, Summer 2018, Department of Physics and Astronomy, MTSU. (May 8, 2018 - June 30, 2018).
10. CBAS ad-hoc mentoring committee member., MTSU. (February 26, 2018 - May 1, 2018).

References

<p>Prof. Vladimir Dobrosavljevic Department of Physics Florida State University 611 Keen Building Tallahassee, FL 32306-4350 Tel. (850) 644-9755 Email: vlad@magnet.fsu.edu</p>	<p>Prof. Wei Ku School of Physics and Astronomy Shanghai Jiao Tong University 800 Dongchuan Road, Shanghai, 200240 Phone: +86-21-5474-0953 Email: weiku@sjtu.edu.cn</p>
<p>Prof. Emanuel Gull Department of Physics University of Michigan Randall Laboratory 450 Church Street Ann Arbor, MI 48109-1040 Tel. (734) 615-0726 Email: egull@umich.edu</p>	<p>Prof. Kazushi Kanoda Department of Applied Physics School of Engineering University of Tokyo 7-3-1 Hongo, Bunkyo-ku Tokyo 113-8656, JAPAN Phone +81-3-5841-6830 Fax +81-3-5841-8808 Email: kanoda@ap.t.u-tokyo.ac.jp</p>

