

Inna Vishik

UC Davis, Department of Physics and Astronomy, 239
One Shields Ave, Davis, CA 95616

Research and Professional experience

July 2021–: *Associate Professor*, University of California, Davis, Department of Physics and Astronomy

Feb 2025–: *Faculty Scientist*, Lawrence Berkeley National Laboratory

2016–June 2021: *Assistant Professor*, University of California, Davis, Department of Physics and Astronomy

Professional Preparation

2013–2016: Massachusetts Institute of Technology, Pappalardo Postdoctoral Fellow in Department of Physics

2006–2013: Stanford University, Ph.D Department of Applied Physics

2005–2006: Stanford University, M.S. Department of Materials Science

2003–2006: Stanford University, B.S. Department of Physics

Current and recent funding

NSF DMR-TMRP (PI): "Correlating and controlling local chemistry and electronic structure in quantum materials" \$528,214 (April 2025–March 2028)

Gordon and Betty Moore Foundation, Experimental Physics Initiative (EPI): "Beyond the superconducting dome" \$1,250,00 (Sept 2024–Aug 2029)

France-Berkeley Fund (co-PI): "Superconductivity in cuprates beyond the superconducting dome": \$12,000 (July 2024–Dec 2025)

Deans Faculty Fellow: \$22,500 (July 2022–June 2025)

The U.S.-Israel Binational Science Foundation (BSF, co-PI): "Band resolved imaging of topological switching in Weyl semimetals" \$270,000 (Oct 2021–Sept 2025)

Alfred P. Sloan Foundation: "Superconductivity at the edge: creating and understanding unconventional superconductors" \$70,000 (Sept 2019–Sept 2023)

AFOSR-YIP: "The Electronic Ingredients for Oxide High- T_c : Making Connections Between Cuprates and Bismuthates" \$450,000 (Feb 2018–Feb 2022)

DOE: "Development of advanced photoemission and x-ray techniques and application to buried interfaces and quasi-2D quantum materials" \$200,000 (Jan 2019–Jun 2021)

NSF-EAGER (co-PI): "Enabling Quantum Leap: Towards Room Temperature Quantum Logic with Topological Exciton Condensates" \$300,000 (July 2018–July 2020)

Awards

2022-2025: Dean's Faculty Fellow

2019-2021: Sloan Research Fellowship

2013-2016: Pappalardo Fellowship, Massachusetts Institute of Technology

2009-2011: Stanford Graduate Fellowship

2006-2009: National Science Foundation Graduate Research Fellowship

Publications

summary: *h-index:* 24, *total citations:* 3716 (*Source:* Google Scholar, August 13, 2025)

37. *Symmetry-Enforced Fermi Surface Degeneracies Observed in Time-Reversal Symmetry-Broken Superconductor LaNiGa_2*
Matthew Staab, Robert Prater, Sudheer Sreedhar, Journey Byland, Eliana Mann, Davis Zakaria, Yunshu Shi, Henry J Bowman, Andrew L Stephens, Myung-Chul Jung, Antia S Botana, Warren E Pickett, Valentin Taufour, **Inna Vishik**
Physical Review B **110** 165115 (2024)
36. *Absence of strong magnetic fluctuations or interactions in the normal state of LaNiGa_2*
P. Sherpa, I. Vinograd, Y. Shi, S. A. Sreedhar, C. Chaffey, T. Kissikov, M.-C. Jung, A. S. Botana, A. P. Dioguardi, R. Yamamoto, M. Hirata, G. Conti, S. Nemsak, J. R. Badger, P. Klavins, **I. Vishik**, V. Taufour, and N. J. Curro
Physical Review B **109**, 125113 (2024)
35. *Copper migration and surface oxidation of $\text{Cu}_x\text{Bi}_2\text{Se}_3$ in ambient pressure environments*
Adam L. Gross, Lorenz Falling, Matthew C. Staab, Metzli I. Montero, Rahim R. Ullah, David Mark Nisson, Peter Klavins, Kristie J. Koski, Nicholas J Curro, Valentin Taufour, Slavomir Nemsak, and **Inna Vishik**
J. Phys. Mater. **5** 044005 (2022)
34. *Dirac lines and loop at the Fermi level in the Time-Reversal Symmetry Breaking Superconductor LaNiGa_2*
Jackson R. Badger, Yundi Quan, Matthew C. Staab, Shuntaro Sumita, Antonio Rossi, Kasey P. Devlin, Kelly Neubauer, Daniel S. Shulman, James C. Fetting, Peter Klavins, Susan M. Kauzlarich, Dai Aoki, **Inna M. Vishik**, Warren E. Pickett, Valentin Taufour
Communications Physics **5** (1), 1-8 (2022)
33. *Electronic structure and topology across T_c in magnetic Weyl semimetal $\text{Co}_3\text{Sn}_2\text{S}_2$*
Antonio Rossi*, Vsevolod Ivanov*, Sudheer Sreedhar, Adam L. Gross, Zihao Shen, Eli Rotenberg, Aaron Bostwick, Chris Jozwiak, Valentin Taufour, Sergey Y. Savrasov, **Inna M. Vishik**
Physical Review B **104**, 155115 (2021)
*These authors contributed equally
32. *Layer-resolved many-electron interactions in delafossite PdCoO_2 from standing-wave photoemission spectroscopy*
Qiyang Lu, Henrique Martins, Juhan Matthias Kahk, Gaurab Rimal, Seongshik Oh, **Inna Vishik**, Matthew Brahlek, William C Chueh, Johannes Lischner, Slavomir Nemsak
Communications Physics **4**, 143 (2021)

31. *Bulk electronic structure of lanthanum hexaboride (LaB6) by hard x-ray angle-resolved photo-electron spectroscopy*
Arunothai Rattanachata, Laurent C. Nicolaï, Henrique P. Martins, Giuseppina Conti, Matthieu J. Verstraete, Mathias Gehlmann, Shigenori Ueda, Keisuke Kobayashi, **Inna Vishik**, Claus M. Schneider, Charles S. Fadley, Alexander X. Gray, Ján Minár, and Slavomír Nemšák
Phys. Rev. Materials **5**, 055002 (2021)
30. *Nanosecond dynamics in intrinsic topological insulator $Bi_{2-x}Sb_xSe_3$ revealed by time-resolved optical reflectivity*
Adam L. Gross, Yasen Hou, Antonio Rossi, Dong Yu, and **Inna M. Vishik**
Physical Review B Letters **103** L020301 (2021)
29. *Three interaction energy scales in single-layer high- T_C cuprate $HgBa_2CuO_{4+\delta}$*
S. A. Sreedhar, Antonio Rossi, J. Nayak, Z. Anderson, Y. Tang, B. Gregory, M. Hashimoto, D.-H. Lu, E. Rotenberg, R. J. Birgeneau, M. Greven, M. Yi, **I. M. Vishik**
Physical Review B **102** 205109 (2020)
28. *Two phase transitions driven by surface electron-doping in WTe_2*
Antonio Rossi, Giacomo Resta, Seng Huat Lee, Ronald Dean Redwing, Chris Jozwiak, Aaron Bostwick, Eli Rotenberg, Sergey Y. Savrasov, **Inna M. Vishik**
Physical Review B **102** 121110(R) (2020)
27. *A coexistence that CuO_2 planes can see*
Inna Vishik
Science **369** 775-776 (2020)
26. *Millimetre-long transport of photogenerated carriers in topological insulators*
Yasen Hou, Rui Wang, Rui Xiao, Luke McClintock, Henry Clark Travaglini, John P. Francia, Harry Fetsch, Onur Erten, Sergey Y. Savrasov, Baigeng Wang, Antonio Rossi, **Inna Vishik**, Eli Rotenberg, Dong Yu
Nature Communications **10** 5723 (2019)
25. *Topological surface states above the Fermi level in Hf_2Te_2P*
T. J. Boyle, A. Rossi, M. Walker, P. Carlson, M. K. Miller, J. Zhao, P. Klavins, C. Jozwiak, A. Bostwick, E. Rotenberg, V. Taufour, **I. M. Vishik**, and E. H. da Silva Neto.
Physical Review B **100**, 081105(R) (2019)
24. *Rapid change of superconductivity and electron-phonon coupling through 19% doping in Bi_2Te_2*
Yu He, Makoto Hashimoto, Dongjoon Song, Sudi Chen, Junfeng He, **Inna M. Vishik**, Brian Moritz, Dunghai Lee, Naoto Nagaosa, Jan Zaanen, Thomas P. Devereaux, Yoshiyuki Yoshida, Hiroshi Eisaki, Donghui Lu, Zhi-Xun Shen.
Science **362**, 62-65 (2018)
23. *Photoemission perspective on pseudogap, superconducting fluctuations, and charge order: a review of recent progress*
Inna Vishik
Rep. Prog. Phys. **81**, 062501 (2018)
22. *Photoemission of Quantum Materials*
Nuh Gedik and **Inna Vishik**
Nature Physics **13**, 1029-1033 (2017)
21. *Ultrafast dynamics in the presence of antiferromagnetic correlations in electron-doped cuprate $La_{2-x}Ce_xCuO_{4\pm\delta}$*

- I. M. Vishik**, F. Mahmood, Z. Alpichshev, N. Gedik, J. Higgins, and R. L. Greene
Phys. Rev. B **95**, 115125 (2017)
20. *High Resolution Angle Resolved Photoemission with Tabletop 11eV Laser*
Yu He, **Inna Vishik**, Ming Yi, Shuolong Yang, Zhongkai Liu, James Lee, Sudi Chen, Slavko Rebec, Dominik Leuenberger, Alfred Zong, Michael Jefferson, Robert Moore, Patrick Kirchmann, Andrew Merriam, Zhi-Xun Shen
Reviews of Scientific Instruments **87**, 011301 (2016)
 19. *Direct spectroscopic evidence for phase competition between the pseudogap and superconductivity in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$*
M. Hashimoto, E. A. Nowadnick, R.-H. He, **I. M. Vishik**, B. Moritz, Y. He, K. Tanaka, R. G. Moore, D. H. Lu, Y. Yoshida, M. Ishikado, T. Sasagawa, K. Fujita, S. Ishida, S. Uchida, H. Eisaki, Z. Hussain, T. P. Devereaux, and Z.-X. Shen
Nature Materials **14**, 37 (2015)
 18. *Energy gaps in high-transition-temperature cuprate superconductors*
M. Hashimoto, **I. M. Vishik**, R. H. He, T. P. Devereaux, Z.-X. Shen
Nature Physics **10**, 483 (2014)
 17. *Angle resolved photoemission spectroscopy study of $\text{HgBa}_2\text{CuO}_{4+\delta}$*
I. M. Vishik, Neven Barišić, M.K. Chan, Yuan Li, D. D. Xia, Guichuan Yu, Xudong Zhao, W. S. Lee, W. Meevasana, T. P. Devereaux, Martin Greven, and Z.-X. Shen
Phys. Rev. B **89** 195141 (2014)
 16. *Phase competition in trisected superconducting dome*
I. M. Vishik, M. Hashimoto, R.-H. He, W. S. Lee, F. Schmitt, D. H. Lu, R. G. Moore, C. Zhang, W. Meevasana, T. Sasagawa, S. Uchida, K. Fujita, S. Ishida, M. Ishikado, Y. Yoshida, H. Eisaki, Z. Hussain, T. P. Devereaux, and Z.-X. Shen
Proc. Natl. Acad. Sci. **109** 18332 (2012)
 15. *Superconductivity distorted by the coexisting pseudogap in the antinodal region of $\text{Bi}_{1.5}\text{Pb}_{0.55}\text{Sr}_{1.6}\text{La}_{0.4}\text{CuO}_{6+\delta}$: A photon-energy-dependent angle-resolved photoemission study*
M. Hashimoto, R.-H. He, **I. M. Vishik**, F. Schmitt, R. G. Moore, D. H. Lu, Y. Yoshida, H. Eisaki, Z. Hussain, T. P. Devereaux, and Z.-X. Shen
Phys. Rev. B **86**, 094504 (2012)
 14. *Intrinsic ultrathin topological insulators grown via molecular beam epitaxy characterized by in-situ angle resolved photoemission spectroscopy*
J. J. Lee, F. T. Schmitt, R. G. Moore, **I. M. Vishik**, Y. Ma, and Z. X. Shen
Appl. Phys. Lett. **101**, 013118 (2012)
 13. *Angle-Resolved Photoemission Studies of Quantum Materials*
Donghui Lu, **Inna M. Vishik**, Ming Yi, Yulin Chen, Rob G. Moore, and Zhi-Xun Shen
Annual Reviews of Condensed Matter Physics **3**, 129 (2012)
 12. *Pseudogap, Superconducting Gap, and Fermi Arc in High-Tc Cuprates Revealed by Angle-Resolved Photoemission Spectroscopy*
Teppei Yoshida, Makoto Hashimoto, **Inna M. Vishik**, Zhi-Xun Shen, and Atsushi Fujimori
Journal of the Physical Society of Japan **81**, 011006 (2012)
 11. *Evidence for the Importance of Extended Coulomb Interactions and Forward Scattering in Cuprate Superconductors*
S. Johnston, **I. M. Vishik**, W. S. Lee, F. Schmitt, S. Uchida, K. Fujita, S. Ishida, N. Nagaosa,

- Z.-X. Shen, and T. P. Devereaux
Phys. Rev. Lett. **108**, 166404 (2012)
10. *ARPES studies of cuprate Fermiology: superconductivity, pseudogap and quasiparticle dynamics*
I. M. Vishik, W.-S. Lee, R.-H. He, M. Hashimoto, Z. Hussain, T. P. Devereaux, and Z.-X. Shen
New Journal of Physics **12**, 105008 (2010)
 9. *Doping-Dependent Nodal Fermi Velocity of the High-Temperature Superconductor $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ Revealed Using High-Resolution Angle-Resolved Photoemission Spectroscopy*
I. M. Vishik, W. S. Lee, F. Schmitt, B. Moritz, T. Sasagawa, S. Uchida, K. Fujita, S. Ishida, C. Zhang, T. P. Devereaux, and Z.-X. Shen
Phys. Rev. Lett. **104**, 207002 (2010)
 8. *A momentum-dependent perspective on quasiparticle interference in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$*
I. M. Vishik, E. A. Nowadnick, W. S. Lee, Z. X. Shen, B. Moritz, T. P. Devereaux, K. Tanaka, T. Sasagawa, T. Fujii
Nature Physics **5**, 718 (2009)
 7. *Dependence of Band-Renormalization Effects on the Number of Copper Oxide Layers in Tl-Based Copper Oxide Superconductors Revealed by Angle-Resolved Photoemission Spectroscopy*
W. S. Lee, K. Tanaka, **I. M. Vishik**, D. H. Lu, R. G. Moore, H. Eisaki, A. Iyo, T. P. Devereaux, and Z. X. Shen
Phys. Rev. Lett. **103**, 067003 (2009)
 6. *A brief update of angle-resolved photoemission spectroscopy on a correlated electron system*
W. S. Lee, *I. M. Vishik*, D. H. Lu, Z. X. Shen
Journal of Physics: Condensed Matter **21**, 164217 (2009)
 5. *Superconductivity-induced self-energy evolution of the nodal electron of optimally doped $\text{Bi}_2\text{Sr}_2\text{Ca}_{0.92}\text{Y}_{0.08}\text{Cu}_2\text{O}_{8+\delta}$*
W. S. Lee, W. Meevasana, S. Johnston, D. H. Lu, **I. M. Vishik**, R. G. Moore, H. Eisaki, N. Kaneko, T. P. Devereaux, and Z. X. Shen
Phys. Rev. B **77**, 140504 (2008)
 4. *Abrupt onset of a second energy gap at the superconducting transition of underdoped $\text{Bi}_2\text{212}$*
W. S. Lee, **I. M. Vishik**, K. Tanaka, D. H. Lu, T. Sasagawa, N. Nagaosa, T. P. Devereaux, Z. Hussain, and Z.-X. Shen
Nature **450**, 81 (2007)
 3. *Spin correlations in the electron-doped high-transition-temperature superconductor $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_{4\pm\delta}$*
E. M. Motoyama, G. Yu, **I. M Vishik**, O.P Vajk, P.K. Mang, and M. Greven
Nature **455**, 186 (2007)
 2. *Magnetic field effect on the superconducting magnetic gap of $\text{Nd}_{1.85}\text{Ce}_{0.15}\text{CuO}_4$*
E. M. Motoyama, P.K. Mang, D. Petitgrand, G. Yu, O.P. Vajk, **I. Vishik**, and M. Greven
Phys. Rev. Lett. **96**, 137002 (2006)
 1. *Dynamics of drag and force distributions for projectile impact in a granular medium*
Massimo Pica Ciamarra, Antonio H. Lara, Andrew T. Lee, Daniel I. Goldman, **Inna Vishik** and Harry L. Swinney
Phys. Rev. Lett. **92**, 194301 (2004)

Preprints

- *Mesoscale variations of chemical and electronic landscape on the surface of Weyl semimetal $\text{Co}_3\text{Sn}_2\text{S}_2$ visualized by ARPES and XPS*
Sudheer Anand Sreedhar, Matthew Staab, Mingkun Chen, Robert Prater, Zihao Shen, Giuseppina Conti, Ittai Sidilkover, Zhenghong Wu, Eli Rotenberg, Aaron Bostwick, Chris Jozwiak, Hadas Soifer, Slavomir Nemsak, Sergey Y. Savrasov, Vsevolod Ivanov, Valentin Taufour, **Inna M. Vishik**
arXiv:2508.01826
- *Hard x-ray standing-wave photoemission study of the interfaces in a $\text{BiFeO}_3/\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ superlattice*
H. P. Martins, S. A. Khan, G. Conti, A. A. Greer, A. Y. Saw, G. K. Palsson, M. Huijben, K. Kobayashi, S. Ueda, C. M. Schneider, **I. M. Vishik**, J. Minár, A. X. Gray, C. S. Fadley, S. Nemšák
arXiv:2012.07993
- *Ubiquitous antinodal quasiparticles and deviation from simple d-wave form in Bi-2212*
I. M. Vishik, Makoto Hashimoto, W. S. Lee, T. P. Devereaux, and Z.-X. Shen
arXiv:1405.4961

Invited Talks

65. *Photoemission spectromicroscopy: correlating local chemistry and electronic structure in quantum materials*
International Conference on Electronic Spectroscopy and Structure (ICESS), Berkeley, CA
July 21, 2025
64. *Using multimodal photoemission to connect surface chemistry and surface electronic structure in quantum materials*
Condensed Matter Seminar, University of California, Santa Cruz
February 28, 2025
63. *Using multimodal photoemission to connect surface chemistry and surface electronic structure in quantum materials*
Seminar, Department of Materials Science and Engineering, UC Davis
October 15, 2024
62. *Electron-phonon coupling in cuprates as visualized by ARPES*
Stanford Synchrotron Radiation Lightsource (SSRL) user meeting, Stanford, CA
September 23, 2024
61. *A ‘surface level’ view of Weyl semimetal materials*
Condensed Matter Seminar, Tel Aviv University
July 8, 2024
60. *Superconductivity: the hype, the reality, and the experiments*
Colloquium, Sonoma State University, Santa Rosa
April 15, 2024
59. *Quantum materials and adventures in momentum space*
Colloquium, California State University, Sacramento
Feb 22, 2024

58. *A ‘surface level’ view of Weyl semimetal materials*
Physics Seminar, University of California, Merced
Feb 2, 2024
57. *A ‘surface level’ view of Weyl semimetal materials*
Condensed Matter Physics Seminar, University of Illinois Urbana-Champaign
Nov 17, 2023
56. *Spatially-Resolved Photoemission Studies of Magnetic Weyl Semimetals*
Invited: American Vacuum Society Annual meeting Nov 9, 2023
55. *Quantum materials and the photoelectric effect*
Colloquium, University of San Francisco
Sept 19, 2023
54. *Using photoemission to uncover physics and chemistry of quantum materials*
Colloquium, Santa Clara University
Nov 7, 2022
53. *Using photoemission to uncover physics and chemistry of quantum materials*
American Physical Society Far West Section, Plenary talk
Oct 8, 2022
52. *Electronic correlations and topology across T_c in a magnetic Weyl semimetal*
OPTICA Cinvestav Querétaro Student Chapter
July 29, 2022
51. *Electronic correlations and topology across T_c in a magnetic Weyl semimetal*
Condensed Matter Seminar, University of California, Berkeley
Apr 11, 2022
50. *Electronic correlations and topology across T_c in a magnetic Weyl semimetal*
Condensed Matter Seminar (virtual), University of British Columbia
Mar 10, 2022
49. *The normal state electronic structure of unconventional superconductors*
Condensed Matter Seminar (virtual), Bar Ilan University
Dec 3, 2021
48. *Visualizing phase transitions in Weyl semimetal materials*
Condensed Matter Seminar (virtual), UCLA
Nov 10, 2021
47. *High Resolution Angle-Resolved Photoemission Spectroscopy Studies of Quantum Materials*
American Vacuum Society (AVS) annual meeting (virtual),
Charles S. Fadley Memorial Session
Oct 26, 2021
46. *New experimental frontiers in quantum materials*
Colloquium, UC Davis
Oct 25, 2021
45. *Visualizing phase transitions in Weyl semimetal materials*
Condensed Matter Seminar, Texas A&M University
Sept 17, 2021

44. *Visualizing phase transitions in Weyl semimetal materials*
Seminar (virtual), Max Planck Institute for the Structure and Dynamics of Matter (Hamburg)
May 27, 2021
43. *Visualizing phase transitions in Weyl semimetal materials*
Condensed Matter Seminar (virtual), Tel Aviv University
May 24, 2021
42. *Shear displacement driven by surface electron doping in WTe_2*
Graphene and Beyond Workshop (virtual), Penn State University
May 14, 2021
41. *Nanosecond dynamics in intrinsic topological insulator $Bi_{2-x}Sb_xSe_3$ revealed by time-resolved optical reflectivity*
CLEO conference (virtual)
May 11, 2021
40. *High-temperature superconductivity: universality and materials dependence*
Colloquium (virtual), Boston College
April 14, 2021
39. *High-temperature superconductivity: universality and materials dependence*
Colloquium (virtual), University of Cincinnati
April 1, 2021
38. *Universality vs materials-dependence in cuprates: ARPES studies of the model cuprate $Hg1201$*
33rd International Symposium on Superconductivity (ISS2020, virtual)
Dec. 12, 2020
37. *Universality vs materials-dependence in cuprates: ARPES studies of the model cuprate $Hg1201$*
Strongly Correlated/High- T_c Superconductor seminar series on Harvard CMSA ZOOM
Sept. 24, 2020
36. *The faces of WTe_2*
Aspen Winter Conference: Theory meets Experiment, March. 13, 2020
35. *The faces of WTe_2*
Flatiron Institute, Quantum Cafe, Oct. 23, 2019
34. *The faces of WTe_2*
Advanced Lightsource seminar, July 17, 2019
33. *The faces of WTe_2*
First Nanjing conference on Quantum Materials, June 17, 2019
32. *A photoemission perspective on Cuprates*
Gordon Research Seminar Keynote, May 11, 2019
31. *ARPES studies of the model cuprate $HgBa_2CuO_{4+\delta}$ ($Hg1201$)*
Condensed Matter Seminar, University of Minnesota, Minneapolis, MN, Sept. 26, 2018
30. *ARPES studies of the model cuprate $HgBa_2CuO_{4+\delta}$ ($Hg1201$)*
Condensed Matter Physics in the City, London, UK, June 18, 2018
29. *Electronic structure and dynamics in cuprates*
Condensed Matter Physics in the City, Rutherford Appleton Laboratory, UK, June 18, 2018
28. *Low energy excitations in cuprates*
Condensed Matter Seminar, Rice University, Houston, TX, Nov. 21, 2017

27. *Low energy excitations in cuprates*
Condensed Matter Seminar, UC Santa Cruz, Santa Cruz, CA, Nov. 17, 2017
26. *Adventures in momentum space: shedding light on unconventional superconductors*
Physics Department Seminar, Reed College, Portland, OR, Oct. 26, 2017
25. *ARPES investigations of the model cuprate Hg1201*
International workshop on superconductivity and magnetism, Dresden, Germany, Sept. 28, 2017
24. *Electronic Ingredients for high-T_c: ARPES results and opportunities in cuprates*
Workshop on Quantum Materials: UC Berkeley, June 14, 2017
23. *Collective Excitations in Hg1201*
Gordon Research Conference–Superconductivity, Waterville Valley, NH, June 5, 2017
22. *NanoARPES and Unconventional Superconductivity*
ALS-U workshop–Quantum materials session, Lawrence Berkeley National Lab, Jan. 19, 2017
21. *Ultrafast dynamics in the presence of antiferromagnetic correlations in electron-doped cuprates*
Condensed matter seminar, The Ohio State University, Dec. 8, 2016
20. *Ultrafast dynamics in the presence of antiferromagnetic correlations in electron-doped cuprates*
Condensed matter seminar, University of California, Los Angeles, Oct. 26, 2016
19. *Ultrafast dynamics in unconventional superconductors*
Condensed matter seminar, University of Maryland, Dec. 10, 2015
18. *Ultrafast dynamics in unconventional superconductors*
Condensed matter seminar, Rutgers University, Nov. 10, 2015
17. *ARPES studies of low energy excitations in cuprate superconductors*
The 11th International Conference on Materials and Mechanisms of Superconductivity (M2S)
Geneva, Switzerland, August 2015
16. *Low energy excitations in cuprate high temperature superconductors*
CORPES 2015, Paris, France, July 2015
15. *Ultrafast dynamics in heavy fermions and electron-doped cuprates*
Condensed matter seminar, Princeton University, May 2015
14. *Momentum space imaging of cuprate superconductors*
Kavli Institute for Theoretical Physics, University of California, Santa Barbara, November 2014
13. *Low energy excitations in cuprate high temperature superconductors*
The New Generation in Strongly Correlated Electron Systems, Nice, France, June 2014
12. *Low energy excitations in cuprate high temperature superconductors*
Condensed matter seminar, University of Connecticut, April 2014
11. *Low energy excitations in cuprates: an ARPES perspective*
Aspen conference, *Beyond quasiparticles: new paradigms for quantum fluids*, January 2014
10. *Gap measurements and the cuprate phase diagram*
Aspen conference, *Unconventional order in strongly correlated electron systems*, January 2014
9. *Laser-ARPES studies of cuprate high temperature superconductors: elucidating low-energy excitations*
Physics in the field, NHMFL, Los Alamos National Lab., November 2013

8. *Low-energy excitations in cuprates: laser-ARPES studies*
Condensed matter seminar, Northeastern University, November 2013
7. *Laser ARPES studies of cuprate high temperature superconductors*
Physics seminar, San Jose State University, October 2013
6. *Phase competition in trisected superconducting dome*
Spectroscopies of Novel Superconductors, June 2013
5. *ARPES studies of high-T_c cuprates*
Gordon Research Seminar-Superconductivity, May 2013
4. *Phase competition in trisected superconducting dome*
American Physical Society March Meeting 2012
3. *Phase competition in cuprate superconducting dome*
Condensed Matter Seminar at University of California, Riverside, February 2012
2. *Laser-ARPES studies of cuprate Fermiology*
Condensed Matter Seminar at University of Minnesota, April 2011
1. *Quasiparticles in Bi-2212*
Workshop on High-Temperature Superconductors at the University of Tokyo, Jan 2009

Summer School Lectures

3. *Angle-resolved photoemission spectroscopy: introduction and applications*
Los Alamos Computational Condensed Matter Summer School 2025
2. *Angle-resolved photoemission spectroscopy (ARPES) overview*
Angle-resolved photoemission spectroscopy (ARPES): applications to quantum materials
Quantum Science Summer School (QS3), Cornell University, June 2018
1. *Identifying competing phases in cuprates using ARPES Sunset 2017*
School on unconventional superconductivity, experiment and theory, Cargese, France, August, 2017

Outreach and General Audience Talks

9. *The universe inside a crystal*
UC Davis Picnic Day April 12, 2025
8. *Superconductivity: the hype, the reality, and the experiments*
Dean's faculty fellows public lecture
May 15, 2024
7. *The secret life of electrons*
David Pines memorial lecture (Public lecture), Jan 10, 2022
6. *Quantum materials for tomorrow's quantum technologies*
Quantum Computing Club, UC Davis, May 14, 2021
5. *The dance of the electrons: Using light to visualize the origin of materials' emergent behavior*
Optics Club Symposium, UC Davis, Feb 26, 2021
4. *The Physics of Many-Research in experimental condensed matter physics*
Freshman Seminar, UC Davis, Physics Department, Oct. 4, 2017

3. *A picosecond in the life of a superconductor*
MIT 15th Annual Pappalardo Fellowships in Physics Symposium, May 12, 2016
2. *Frontiers in superconductivity*
MIT Physics IAP Lecture Series, Jan. 2015
1. *Adventures in unconventional superconductivity*
MIT 13th Annual Pappalardo Fellowships in Physics Symposium, May 16, 2014

Teaching

8. *Physics 9B: Waves, optics, thermodynamics, and fluid dynamics*
UC Davis, Fall 2024, Spring 2025
7. *Physics 9D: Modern Physics*
UC Davis, Spring 2024
6. *Physics 9HE: Applications of quantum mechanics*
UC Davis, Winter 2018, 2020, 2021
5. *Physics 112: Thermodynamics and statistical mechanics*
UC Davis, Fall 2020, 2021, 2022
4. *Physics 140A: Introduction to solid state physics (1st quarter)*
UC Davis, Winter 2017, 2022, 2024
3. *Physics 140B: Introduction to solid state physics (2nd quarter)*
UC Davis, Spring 2018, 2020, 2021
2. *Physics 243A: Surface Science (co-taught/designed course)* UC Davis Winter 2024
1. *Physics 250: Spectroscopies of quantum materials (co-designed course)*
UC Davis, Fall 2016, Winter 2018

Service and synergistic activities

- Member of proposal review panel (PRP) at Stanford Synchrotron Radiation Lightsource. PRP facilitates review process of proposal to get beamtime.
- Chair of user executive committee (UEC) at the Advanced Lightsource (ALS) at Lawrence Berkeley Lab (LBL), which provides a channel of communication between the ALS user community and ALS management. The UEC represents the interests of over 6000 scientists from all over the world who perform research at the ALS. (Member 2021-2024, Chair 2023)
- Co-Organizer of Lightsources 101 workshop at ALS user meeting, aimed at students and new synchrotron users. This workshop introduces synchrotron radiation, experimental techniques used at the ALS, and demystifies the competitive proposal process. Conceived and initiated the latter component about how to write a beamtime proposal and how they are reviewed (2021-2024).
- Development of curriculum materials for a special topics course at UC Davis entitled “Advanced spectroscopies of modern quantum materials.”
Topics include the technique of angle-resolved photoemission spectroscopy (ARPES), developments in ARPES technology, superconductors, topological materials, Dirac materials, 2D materials. Later this content was incorporated into 243A, which focused on surface science

techniques at synchrotrons, and also incorporated technical writing curriculum (Fall Quarter 2016, Winter 2018, Winter 2024)

- Member of Frederica Darema Lecture Committee in the physics department at UC Davis, which facilitates colloquia by early career (pre-tenure) women and minority physicists from across the US (2019-2021)
- Referee for Physical Review Letters, Physical Review B, Physical Review X, Nature Communications, Science, Nature Physics, Nature Materials, PNAS; referee for synchrotron beamtime proposals; Reviewer for DOE, NSF, DFG (ongoing)
- Technical blogging and social media outreach: answering public's questions about condensed matter physics, its manifestations in everyday phenomena, and careers in this field on social media site Quora and exposition about this topic on X. Writing has fostered contacts/interviews with media and appearances on podcasts.