

# ILIJA ZELJKOVIC

Department of Physics, Boston College  
Higgins Hall 230H  
140 Commonwealth Ave  
Chestnut Hill, MA 02467

*Email:* [ilija.zeljko@bc.edu](mailto:ilija.zeljko@bc.edu)  
*Phone:* 617-552-6490 (office)  
*Fax:* 617-552-8478  
<https://bc.edu/zeljko-lab>

---

*Zeljko lab focuses on discovering and manipulating novel electronic phenomena in quantum materials by using molecular beam epitaxy and scanning tunneling microscopy/spectroscopy.*

**Education**     **Harvard University**, Cambridge, MA  
**Ph.D.** in Physics, May **2013**  
Dissertation Title: “Visualizing the Interplay of Structural and Electronic Disorders in High-Temperature Superconductors using Scanning Tunneling Microscopy” (*Advisor:* Jenny Hoffman)  
**Washington University in Saint Louis**, Saint Louis, MO  
**B.S.** in Physics; **B.S.** in Computer Science  
Minors in Mathematics and Economics, *Summa Cum Laude*, May **2007**

**Research Positions**     *Professor*     07/2023 – Present  
**Boston College**, Physics Department, Chestnut Hill, MA  
*Associate Professor*     07/2020 – 06/2023  
**Boston College**, Physics Department, Chestnut Hill, MA  
*Assistant Professor*     07/2015 – 06/2020  
**Boston College**, Physics Department, Chestnut Hill, MA

**Awards**     DOE Early CAREER Award (**2019**)  
ARO Young Investigator Award (YIP) (**2017**)  
DARPA Young Faculty Award (**2017**)  
NSF CAREER Award (**2017**)  
Purcell Graduate Fellowship (**2007**)

## Publications

1. Yidi Wang\*, Hong Li, Siyu Cheng, He Zhao, Brenden R Ortiz, Andrea Capa Salinas, Stephen D Wilson, Ziqiang Wang and [Ilija Zeljkovic](#), “Nanoscale strain manipulation of smectic susceptibility in kagome superconductors”, *arXiv*:2312.06407
2. Hong Li, Siyu Cheng, Ganesh Pokharel, Philipp Eck, Chiara Bigi, Federico Mazzola, Giorgio Sangiovanni, Stephen D. Wilson, Domenico Di Sante, Ziqiang Wang and [Ilija Zeljkovic](#), “Colossal orbital Zeeman effect driven by tunable spin-Berry curvature in a kagome metal”, *arXiv*:2312.04445
3. Christopher Candelora, Hong Li, Muxian Xu, Brenden R Ortiz, Andrea Capa Salinas, Siyu Cheng, Alexander LaFleur, Ziqiang Wang, Stephen D Wilson and [Ilija Zeljkovic](#), “Quantifying magnetic field driven lattice distortions in kagome metals at the femto-scale using scanning tunneling microscopy”, *arXiv*:2310.12890
4. Alexander LaFleur, Hong Li, Corey E Frank, Muxian Xu, Siyu Cheng, Ziqiang Wang, Nicholas P Butch, Ilija Zeljkovic, “Inhomogeneous high temperature melting and decoupling of charge density waves in spin-triplet superconductor UTe<sub>2</sub>”, *arXiv*:2308.03721
5. Siyu Cheng, Zheng Ren, Hong Li, Jiseop Oh, Hengxin Tan, Ganesh Pokharel, Jonathan M DeStefano, Elliott Rosenberg, Yucheng Guo, Yichen Zhang, Ziqin Yue, Yongbin Lee, Sergey Gorovikov, Marta

- Zonno, Makoto Hashimoto, Donghui Lu, Liqin Ke, Federico Mazzola, Junichiro Kono, RJ Birgeneau, Jiun-Haw Chu, Stephen D Wilson, Ziqiang Wang, Binghai Yan, Ming Yi and [Ilija Zeljkovic](#), “Nanoscale visualization and spectral fingerprints of the charge order in  $\text{ScV}_6\text{Sn}_6$  distinct from other kagome metals”, to appear in *npj Quantum Materials* (2024) [link](#)
6. Manuel Tuniz, Armando Consiglio, Denny Puntel, Chiara Bigi, Stefan Enzner, Ganesh Pokharel, Pasquale Orgiani, Wibke Bronsch, Fulvio Parmigiani, Vincent Polewczyk, Phil DC King, Justin W Wells, [Ilija Zeljkovic](#), Pietro Carrara, Giorgio Rossi, Jun Fujii, Ivana Vobornik, Stephen D Wilson, Ronny Thomale, Tim Wehling, Giorgio Sangiovanni, Giancarlo Panaccione, Federico Cilento, Domenico Di Sante, Federico Mazzola, “Dynamics and resilience of the unconventional charge density wave in  $\text{ScV}_6\text{Sn}_6$  bilayer kagome metal”, *Communications Materials* 4, 103 (2023) [link](#)
  7. Hong Li, Siyu Cheng, Brenden R Ortiz, Hengxin Tan, Dominik Werhahn, Keyu Zeng, Dirk Johrendt, Binghai Yan, Ziqiang Wang, Stephen D Wilson and [Ilija Zeljkovic](#), “Electronic nematicity without charge density waves in titanium-based kagome metal”, *Nature Physics* 19, 1591 (2023) [link](#)
  8. Hong Li, Dongjin Oh, Mingu Kang, He Zhao, Brenden R Ortiz, Yuzki Oey, Shiang Fang, Zheng Ren, Chris Jozwiak, Aaron Bostwick, Eli Rotenberg, Joseph G. Checkelsky, Ziqiang Wang, Stephen D. Wilson, Riccardo Comin and [Ilija Zeljkovic](#), “Small Fermi pockets intertwined with charge stripes and pair density wave order in a kagome superconductor”, *Physical Review X* 13, 031030 (2023) [link](#)
  9. Domenico Di Sante, Chiara Bigi, Philipp Eck, Stefan Enzner, Armando Consiglio, Ganesh Pokharel, Pietro Carrara, Pasquale Orgiani, Vincent Polewczyk, Jun Fujii, Phil D. C King, Ivana Vobornik, Giorgio Rossi, [Ilija Zeljkovic](#), Stephen D. Wilson, Ronny Thomale, Giorgio Sangiovanni, Giancarlo Panaccione and Federico Mazzola, “Flat band separation and robust spin Berry curvature in bilayer kagome metals”, *Nature Physics* 19, 1135 (2023) [link](#)
  10. Linus Kautzsch, Yuzki M. Oey, Hong Li, Zheng Ren, Brenden R. Ortiz, Ram Seshadri, Jacob Ruff, Ziqiang Wang, [Ilija Zeljkovic](#) and Stephen D. Wilson, “Incommensurate charge-stripe correlations in the kagome superconductor  $\text{CsV}_3\text{Sb}_{5-x}\text{Sn}_x$ ”, *npj Quantum Materials* 8, 37 (2023) [link](#)
  11. Shrinkhala Sharma, Hong Li, Zheng Ren, Wilber Alfaro Castro and [Ilija Zeljkovic](#), “Nanoscale visualization of the thermally-driven evolution of antiferromagnetic domains in FeTe thin films”, *Phys. Rev. Materials* 7, 074401 (2023) [link](#)
  12. Hong Li, He Zhao, Brenden Ortiz, Yuzki Oey, Ziqiang Wang, Stephen D. Wilson and [Ilija Zeljkovic](#), “Unidirectional coherent quasiparticles in the high-temperature rotational symmetry broken phase of  $\text{AV}_3\text{Sb}_5$  kagome superconductors”, *Nature Physics* 19, 637 (2023) [link](#)
  13. Brenden R Ortiz, Ganesh Pokharel, Malia Gundayao, Hong Li, Farnaz Kaboudvand, Linus Kautzsch, Suchismita Sarker, Jacob PC Ruff, Tom Hogan, Steven J Gomez Alvarado, Paul M Sarte, Guang Wu, Tara Braden, Ram Seshadri, Eric Toberer, [Ilija Zeljkovic](#) and Stephen Wilson, “ $\text{SbV}_3\text{Sb}_4$  and  $\text{EuV}_3\text{Sb}_4$  vanadium-based kagome metals with  $\text{Yb}^{2+}$  and  $\text{Eu}^{2+}$  zigzag chains”, *Phys. Rev. Materials* 7, 064201 (2023) [link](#)
  14. Oleg Maksimov, Harish B. Bhandari, Bryan Rachmilowitz and [Ilija Zeljkovic](#), “Epitaxial Integration of MnTe with  $\text{Bi}_2\text{Te}_3$ ”, *MRS Advances* 8, 183 (2023) [link](#)
  15. Zheng Ren, Hong Li, He Zhao, Shrinkhala Sharma and [Ilija Zeljkovic](#), “Rotation of the dislocation grid in multilayer FeSe films and visualization of electronic nematic domains via orbital-selective tunneling”, *Phys. Rev. Materials* 6, 124802 (2022) [link](#)
  16. Zheng Ren, Hong Li, Shrinkhala Sharma, Dipak Bhattarai, He Zhao, Bryan Rachmilowitz, Faranak Bahrami, Fazel Tafti, Shiang Fang, Madhav Ghimire, Ziqiang Wang and [Ilija Zeljkovic](#), “Plethora of tunable Weyl fermions in kagome magnet  $\text{Fe}_3\text{Sn}_2$  thin films”, *npj Quantum Materials* 7, 109 (2022) [link](#)

17. Hong Li, He Zhao, Kun Jiang, Qi Wang, Qiangwei Yin, Ning-Ning Zhao, Kai Liu, Ziqiang Wang, Hechang Lei and [Ilija Zeljkovic](#), “Manipulation of Dirac band curvature and momentum-dependent g factor in a kagome magnet”, *Nature Physics* 18, 644–649 (2022) ([link](#)) [Cover Story, June 2022]
18. Hong Li, He Zhao, Brenden R. Ortiz, Takamori Park, Mengxing Ye, Leon Balents, Ziqiang Wang, Stephen D. Wilson and [Ilija Zeljkovic](#), “Rotation symmetry breaking in the normal state of a kagome superconductor  $KV_3Sb_5$ ”, *Nature Physics* 18, 265–270 (2022) ([link](#))
19. Hong Li, He Zhao, Qiangwei Yin, Qi Wang, Zheng Ren, Shrinkhala Sharma, Hechang Lei, Ziqiang Wang and [Ilija Zeljkovic](#), “Spin-polarized imaging of the antiferromagnetic structure and field-tunable bound states in kagome magnet FeSn”, *Scientific Reports* 12, 14525 (2022) ([link](#))
20. He Zhao, Hong Li, Brenden R. Ortiz, Samuel M. L. Teicher, Taka Park, Mengxing Ye, Ziqiang Wang, Leon Balents, Stephen D. Wilson, [Ilija Zeljkovic](#), “Cascade of correlated electron states in a kagome superconductor  $CsV_3Sb_5$ ”, *Nature* 599, 216 (2021) ([link](#))
21. He Zhao, Zach Porter, Xiang Chen, Stephen D. Wilson, Ziqiang Wang and [Ilija Zeljkovic](#), “Imaging antiferromagnetic domain fluctuations and the effect of atomic-scale disorder in a doped spin-orbit Mott insulator”, *Science Advances* 7, abi6468 (2021) ([link](#))
22. He Zhao, Hong Li, Lianyang Dong, Binjie Xu, John Schneeloch, Ruidan Zhong, Minghu Fang, Genda Gu, John Harter, Stephen D. Wilson, Ziqiang Wang & [Ilija Zeljkovic](#), “Nematic transition and nanoscale suppression of superconductivity in Fe(Te,Se)”, *Nature Physics* 17, 903 (2021) ([link](#)) [Cover story, August 2021]
23. Chaowei Hu, Anyuan Gao, Bryan Stephen Berggren, Hong Li, Rafał Kurlito, Dushyant Narayan, [Ilija Zeljkovic](#), Dan Dessau, Suyang Xu and Ni Ni, “Growth, characterization, and Chern insulator state in  $MnBi_2Te_4$  via the chemical vapor transport method”, *Phys. Rev. Materials* 5, 124206 (2021) ([link](#))
24. Zheng Ren, Hong Li, He Zhao, Shrinkhala Sharma, Ziqiang Wang and [Ilija Zeljkovic](#), “Nanoscale decoupling of electronic nematicity and structural anisotropy in FeSe thin films”, *Nat. Commun.* 12, 10 (2021) ([link](#))
25. Bryan Rachmilowitz, He Zhao, Zheng Ren, Hong Li, Konrad H. Thomas, John Marangola\*, Shang Gao, John Schneeloch, Ruidan Zhong, Genda Gu, Christian Flindt & [Ilija Zeljkovic](#), “Coulomb Blockade Effects in a Topological Insulator Grown on a Cuprate Superconductor”, *npj Quantum Materials* 5, 72 (2020) ([link](#))
26. Mason J. Gray, Narendra Kumar, Ryan O’Connor, Marcel Hoek, Erin Sheridan, Meaghan C. Doyle, Marisa L. Romanelli, Gavin B. Osterhoudt, Yiping Wang, Vincent Plisson, Shiming Lei, Ruidan Zhong, Bryan Rachmilowitz, He Zhao, Hikari Kitadai, Steven Shepard, Leslie M. Schoop, G. D. Gu, [Ilija Zeljkovic](#), Xi Ling and Kenneth S. Burch, “A cleanroom in a glove box”, *Review of Scientific Instruments* 91, 073909 (2020) ([link](#))
27. He Zhao, Sujit Manna, Zach Porter, Xiang Chen, Andrew Uzdejczyk\*, Jagadeesh Moodera, Ziqiang Wang, Stephen D. Wilson and [Ilija Zeljkovic](#), “Atomic-scale fragmentation and collapse of antiferromagnetic order in a doped Mott insulator”, *Nature Physics* 15, 1267 (2019) (Cover Story, December 2019, [link](#))
28. Lianyang Dong, He Zhao, [Ilija Zeljkovic](#), Stephen D. Wilson and John W. Harter, “Bulk Superconductivity in  $FeTe_{1-x}Se_x$  via physiochemical pumping of excess iron”, *Phys. Rev. Materials* 3, 114801 (2019) ([link](#))
29. Bryan Rachmilowitz, He Zhao, J. Schneeloch, Ruidan Zhong, Genda Gu and [Ilija Zeljkovic](#), “Proximity-induced superconductivity in a topological crystalline insulator”, *Phys. Rev. B* 100, 241402(R) (2019) ([link](#))
30. He Zhao, Zheng Ren, Bryan Rachmilowitz, John Schneeloch, Ruidan Zhong, Genda Gu, Ziqiang Wang and [Ilija Zeljkovic](#), “Charge-Stripe Crystal Phase in an Insulating Cuprate”, *Nature Materials* 18, 103-107 (2019) ([link](#))

31. He Zhao, Bryan Rachmilowitz, Zheng Ren, Ruobin Han\*\*, J. Schneeloch, Ruidan Zhong, Genda Gu, Ziqiang Wang and [Ilija Zeljkovic](#), “Superconducting Proximity Effect in a Topological Insulator using Fe(Te,Se)”, *Physical Review B* 97, 224504 (2018) ([link](#))
32. Shang Gao, Felix Flicker, Raman Sankar, He Zhao, Zheng Ren, Bryan Rachmilowitz, Sidhika Balachandar\*\*, Fangcheng Chou, Kenneth Burch, Ziqiang Wang, Jasper Van Wezel and [Ilija Zeljkovic](#), “Atomic-Scale Strain Manipulation of a Charge Density Wave”, *PNAS* 115, 6986 (2018) ([link](#))
33. Daniel Walkup, Badih Assaf, Kane L. Scipioni, R. Sankar, Fangcheng Chou, Guoqing Chang, Hsin Lin, [Ilija Zeljkovic](#) and Vidya Madhavan, “Interplay of orbital effects and nanoscale strain in topological crystalline insulators”, *Nature Communications* 9, 1550 (2018) ([link](#))
34. Zhenyu Wang, Daniel Walkup, Philip Derry, Thomas Scaffidi, Melinda Rak, Sean Vig, Anshul Kogar, [Ilija Zeljkovic](#), Ali Husain, Luiz H Santos, Yuxuan Wang, Andrea Damascelli, Yoshiteru Maeno, Peter Abbamonte, Eduardo Fradkin and Vidya Madhavan, “Quasiparticle Interference and Strong Electron-Mode Coupling in the Quasi-One-Dimensional Bands of Sr<sub>2</sub>RuO<sub>4</sub>”, *Nature Physics* 13, 799 (2017) ([link](#))
35. Dennis Huang, Stephen Liu, [Ilija Zeljkovic](#), J.F. Mitchell and Jennifer E. Hoffman, “Etching of Cr tips for scanning tunneling microscopy of cleavable oxides”, *Review of Scientific Instruments* 88, 023705 (2017) ([link](#))
36. [Ilija Zeljkovic](#), Daniel Walkup, Badih Assaf, Kane L. Scipioni, R. Sankar, Fangcheng Chou and Vidya Madhavan, “Strain engineering Dirac surface states in heteroepitaxial topological crystalline insulator thin films”, *Nature Nanotechnology* 10, 849 (2015) ([link](#))
37. [Ilija Zeljkovic](#), Yoshinori Okada, Maksym Serbyn, R. Sankar, Daniel Walkup, Wenwen Zhou, Junwei Liu, Guoqing Chang, Yung Jui Wang, M. Zahid Hasan, Fangcheng Chou, Hsin Lin, Arun Bansil, Liang Fu and Vidya Madhavan, “Dirac mass generation from crystal symmetry breaking on the surfaces of topological crystalline insulators”, *Nature Materials* 14, 318 (2015) ([link](#))
38. [Ilija Zeljkovic](#), Kane Scipioni, Daniel Walkup, Yoshinori Okada, Wenwen Zhou, R. Sankar, Guoqing Chang, Yung Jui Wang, Hsin Lin, A. Bansil, Fangcheng Chou, Ziqiang Wang and Vidya Madhavan, “Nanoscale determination of the mass enhancement factor in the lightly-doped bulk insulator lead selenide”, *Nature Communications* 6, 6559 (2015) ([link](#))
39. R. Sankar, M. Neupane, S.-Y. Xu, C. J. Butler, [I. Zeljkovic](#), I. Panneer Muthuselvam, F.-T. Huang, S.-T. Guo, Sunil K. Karna, M.-W. Chu, W. L. Lee, M.-T. Lin, R. Jayavel, V. Madhavan, M. Z. Hasan and F. C. Chou, “Large single crystal growth, transport property, and spectroscopic characterizations of three-dimensional Dirac semimetal Cd<sub>3</sub>As<sub>2</sub>”, *Scientific Reports* 5, 12966 (2015) ([link](#))
40. [Ilija Zeljkovic](#), Yoshinori Okada, Cheng-Yi Huang, R. Sankar, Daniel Walkup, Wenwen Zhou, Maksym Serbyn, Fangcheng Chou, Wei-Feng Tsai, Hsin Lin, A. Bansil, Liang Fu, M. Zahid Hasan and Vidya Madhavan, “Mapping the unconventional orbital texture in topological crystalline insulators”, *Nature Physics* 10, 572 (2014) ([link](#))
41. [Ilija Zeljkovic](#), Jouko Nieminen, Dennis Huang, Tay-Rong Chang, Yang He, Horng-Tay Jeng, Zhijun Xu, Jinsheng Wen, Genda Gu, Hsin Lin, Robert S. Markiewicz, Arun Bansil and Jennifer E. Hoffman, “Nanoscale interplay of strain and doping in a high-temperature superconductor”, *Nano Letters* 14, 6749 (2014) ([link](#))
42. Yang He, Yi Yin, M. Zech, Anjan Soumyanarayanan, Michael M. Yee, Tess Williams, M. C. Boyer, Kamalesh Chatterjee, W. D. Wise, [Ilija Zeljkovic](#), Takeshi Kondo, T. Takeuchi, H. Ikuta, Peter Mistark, Robert S. Markiewicz, Arun Bansil, Subir Sachdev, E. W. Hudson and Jennifer E. Hoffman, “Fermi Surface and Pseudogap Evolution in a Cuprate Superconductor”, *Science* 344, 608 (2014) ([link](#))
43. [Ilija Zeljkovic](#), Dennis Huang, Can-Li Song, Bing Lv, Ching-Wu Chu and Jennifer E. Hoffman, “Nanoscale Surface Element Identification and Dopant Homogeneity in the High-*T<sub>c</sub>* Superconductor Ca<sub>1-x</sub>Pr<sub>x</sub>Fe<sub>2</sub>As<sub>2</sub>”, *Physical Review B* 87, 201108R (2013) ([link](#))

44. [Ilija Zeljkovic](#) and J. E. Hoffman, “Interplay of chemical disorder and electronic inhomogeneity in unconventional superconductors”, *Physical Chemistry Chemical Physics* 15, 13462 (2013) ([link](#))
45. [Ilija Zeljkovic](#), Elizabeth J. Main, Tess L. Williams, M. C. Boyer, Kamalesh Chatterjee, W. D. Wise, Yi Yin, Martin Zech, Adam E. Pivonka, Takeshi Kondo, T. Takeuchi, Hiroshi Ikuta, Jinsheng Wen, Zhijun Xu, G. D. Gu, E. W. Hudson and Jennifer E. Hoffman, “Scanning tunneling microscopy imaging of symmetry-breaking structural distortion in the bismuth-based cuprate superconductors”, *Nature Materials* 11, 585-589 (2012) ([link](#))
46. [Ilija Zeljkovic](#), Zhijun Xu, Jinsheng Wen, Genda Gu, Robert S. Markiewicz and Jennifer E. Hoffman, “Imaging the impact of single oxygen atoms on superconducting  $\text{Bi}_{2+y}\text{Sr}_{2-y}\text{CaCu}_2\text{O}_{8+x}$ ”, *Science* 337, 320 (2012) ([link](#))

**Notes:** \*undergraduate student, \*\*high-school student (working in Zeljkovic lab)

### Recent Invited Talks

1. “Imaging the cascade of symmetry breaking electronic states in kagome superconductors”, *Recent advances on Superconductivity workshop*, U Florida, **December 2023**
2. “Colossal orbital Zeeman effect driven by tunable spin-Berry curvature in a kagome metal”, *CATS DOE Workshop on 166 kagome materials*, **December 2023**
3. “Imaging symmetry breaking states in kagome metals”, Ohio U, Athens, Ohio **November 2023** (*physics colloquium*)
4. “Imaging the cascade of symmetry breaking electronic states in kagome metals”, *European Physical Society CMD-30 FisMat*, Milano, Italy **September 2023**
5. “Atomic-scale imaging of the evolving domain structure in antiferromagnetic quantum materials”, *8<sup>th</sup> Conference on Spin Polarized STM and Nanoscale Magnetic Imaging*, Ohio State U, Ohio **June 2023**
6. “Imaging symmetry breaking states in kagome metals”, *Gordon Research Conference*, Ventura, CA **May 2023**
7. “Imaging symmetry breaking states in kagome metals”, *Chez Pierre Seminar*, MIT, **April 2023**
8. “Imaging symmetry breaking states in kagome metals”, APS March Meeting, Las Vegas, **March 2023** (*invited*)
9. “Imaging symmetry breaking states in kagome metals”, UCLA **January 2023** (*online seminar*)
10. “Imaging symmetry breaking states in kagome metals”, *TIQM Workshop*, U Washington, **January 2023**
11. “Cascade of symmetry-broken electronic phases in kagome metals  $\text{AV}_3\text{Sb}_5$ ”, Boston College, **September 2022** (*colloquium*)
12. “Nanoscale imaging of symmetry-broken electronic phases in kagome metals  $\text{AV}_3\text{Sb}_5$ ”, Workshop on New Developments in Topological and Correlated Materials, U Penn, **June 2022**
13. “Scanning tunneling microscopy and spectroscopy of symmetry-broken phases in kagome metals  $\text{AV}_3\text{Sb}_5$ ”, Koç University, Turkey **May 2022** (*online seminar*)
14. “Nanoscale imaging of symmetry-broken electronic phases in kagome metals  $\text{AV}_3\text{Sb}_5$ ”, POSTECH, Republic of Korea **March 2022** (*online seminar*)
15. “Nanoscale imaging of symmetry-broken electronic phases in kagome metals  $\text{AV}_3\text{Sb}_5$ ”, Atomic scale quantum materials colloquium series at Aalto University **March 2022** (*online colloquium*)
16. “Nanoscale imaging of symmetry-broken electronic phases in kagome metals  $\text{AV}_3\text{Sb}_5$ ” UIUC, **October 2021** (*online seminar*)
17. “Nanoscale imaging of symmetry-broken electronic phases in kagome metals  $\text{AV}_3\text{Sb}_5$ ”, Workshop on Correlated and topological states in Kagome metals, UC Santa Barbara, **October 2021**

18. “Nanoscale imaging of symmetry-broken electronic phases in kagome metals  $AV_3Sb_5$ ” George Mason University **October 2021** (*online seminar*)
19. “Nanoscale imaging of symmetry-broken electronic phases in kagome metals  $AV_3Sb_5$ ”, CIFAR meeting (*online*), **September 2021**
20. “Symmetry-broken electronic phases in kagome superconductors  $AV_3Sb_5$ ”, Quantum Matter Workshop at Tsung-Dao Lee Institute, **August 2021** (*online*)
21. “Imaging the impact of atomic-scale disorder and temperature fluctuations on antiferromagnetic ordering in iridates”, Brown U, **April 2021** (*Seminar*)
22. “Imaging the impact of atomic-scale disorder and temperature fluctuations on antiferromagnetic ordering in iridates”, APS March Meeting, **March 2021** (*online*)
23. “Fragmentation and Collapse of Antiferromagnetic order in a doped Mott insulator”, Notre Dame, **October 2020** (*online seminar*)
24. “Fragmentation and Collapse of Antiferromagnetic order in a doped Mott insulator”, Harvard U, Cambridge, MA, **January 2020** (*Physics Colloquium*)
25. “Nanoscale Synthesis and Characterization of Superconducting Topological Materials”, Boston University, Boston, MA, **November 2019** (*Seminar*)
26. “Fragmentation and Collapse of Antiferromagnetic order in a doped Mott insulator”, Boston College, Chestnut Hill, MA, **October 2019** (*Physics Colloquium*)
27. “Fragmentation and Collapse of Antiferromagnetic order in a doped Mott insulator”, Clark U, Worcester, MA, **September 2019** (*Physics Colloquium*)
28. “Nanoscale Synthesis and Characterization of Superconducting Topological Materials”, APS March Meeting, Boston, MA, **March 2019**
29. “Superconducting Proximity Effect in a Topological Insulator using  $Fe(Te,Se)$ ,” Harvard University, Cambridge, MA, **March 2018** (*Seminar*)

## Teaching

PHYS 2200: *Intro to Physics I*

Fall 2023: **4.14/5.00**, 58 students

PHYS 2201: *Intro to Physics II*

Spring 2021: **4.56/5.00**, 29 students (online)

Spring 2022: **4.41/5.00**, 62 students

Spring 2023: **4.41/5.00**, 61 students

PHYS 4200: *Electricity & Magnetism I*

Spring 2017: **4.69/5.00**, 18 students

Spring 2018: **4.78/5.00**, 12 students

Spring 2019: **4.80/5.00**, 13 students

Spring 2020: **4.71/5.00**, 20 students (partially online)

PHYS 4545: *Introduction to Condensed Matter Physics*

Fall 2017: **4.63/5.00**, 11 students

Fall 2018: **4.38/5.00**, 9 students

Fall 2019: **4.89/5.00**, 9 students

Fall 2020: **4.58/5.00**, 13 students (online)

PHYS 8910: *Topics in Physics – Microscopy and Spectroscopy Techniques, and Applications to Quantum Materials*

Fall 2015: **4.67/5.00**, 7 students

- University Service** Graduate Committee member (**2019-20, 2020-21, 2022-23, 2023-2024** (chair))  
Junior Faculty Search Committee member (**2016-17, 2017-18, 2018-19, 2021-22**)  
Physics Chair Search Committee member (**2017-18**)  
Executive Director of Research Infrastructure Search Committee member (**2018**)  
Integrated Science Building Planning: Research Laboratories User Group (**2018**)  
Colloquium Committee member (**2017-18**)  
Recognition Committee, including Sigma Pi Sigma Faculty Mentor (**2015-18**)  
Society of Physics Students Faculty Mentor (**2015-18**)  
Space Committee member (**2015-16**)
- Professional Service** *Reviewer* for: NSF, DOE, ARO, DFG, Science, Nature, Nature Materials, Nature Physics, Nature Communications, Science Advances, PRL, PRB, PRX, PRM, ACS Nano, Nano Letters, Scientific Reports and Solid State Communications  
*Guest Editor* for Communications Materials Special Issue on Topological and Chiral Materials (2023-2024)  
*Reviewer* for DOE Graduate Fellowships (2022)  
*Session Chair*: APS March Meeting (2015, 2016)
- Community Service** Local Organizing Committee Member for “Conference for Undergraduate Women in Physics”, Boston College, **January 2024**  
Co-organized workshop on “Correlated and topological states in Kagome metals”, Quantum Foundry, UC Santa Barbara (**Oct. 18 – 21, 2021**)  
Initiated and organized “Undergraduate Research Symposia” talks at BC (**2015 – 2018**)  
Initiated and organized Undergraduate Research Poster Session at BC (**2016-2018**)  
Faculty mentor for students in Research Science Institute program at MIT (**2016, 2017**)  
Junior faculty panel on pursuing faculty jobs, held at Harvard U (**2016**)  
Presented at Chinese Youth Summer Research Program at BC (**2016**)
- Mentoring** Graduate Students:
- Alexander LaFleur (**2018 - present**)
  - Hong Li (**2019 - present**)
  - Shrinkhala Sharma (**2020 – present**)
  - Wilber Alfaro Castro (**2021 – present**)
  - Siyu Cheng (**2022 – present**)
  - Muxian Xu (**2022 – present**)
  - Chris Candelora (**2022 – present**)
  - Sylvia Chen (**2023 – present**)
  - Nastaran Tehrani (**2020 -2020**) -> NEU Engineering Graduate School
  - Bryan Rachmilowitz (**2015 - 2022**) [**Ph.D. Physics**] -> Research Scientist at RMD
  - Zheng Ren (**2016 - 2022**) [**Ph.D. Physics**] -> Rice Academy Postdoc Fellow at Rice U
  - He Zhao (**2015 - 2020**) [**Ph.D. Physics**] -> Postdoc Fellow at BNL
  - Shang Gao (**2015 - 2018**) [**M.S. Physics**]
- Undergraduate Students:
- Isaac Fishman (**2023 – present**) post-bac from UCI
  - Jaden Park (**2023 – present**)
  - Jerry Landman (**2023 – present**)
  - Yidi Wang (**2023**, visiting intern from USTC, China)
  - Michelle Sangillo (**summer 2022**, from WPI)
  - John Marangola (**2020 – 2022**)
  - Maxwell Lavey (**2018 - 2021**) -> Thermo Fisher

- John McDonough (2019 – 2020) -> BU Engineering Graduate School
- Nicholas Stubblefield (2018 - 2019)
- Justin Joss (2018 – 2019)
- Noah Barnett (2017 – 2018) *Fulbright Award 2019 -> Amazon*
- Victor Dulout (2018 - 2018) *Senior thesis 2018*
- Andrew Uzdejczyk (2017 - 2018) *Senior thesis 2018*
- Hanyi Lu (2016 - 2018) *Senior thesis 2018 -> UCSD Physics Grad School*
- Caitlin Seed (2015 - 2017) *Senior thesis 2017 -> NC State Physics Grad School*
- Spencer Kwon (2016 - 2017) *Senior thesis 2017*
- Sarah Steiger (2016-2017) *Senior thesis 2017 -> UCSB Physics Grad School*
- Qi-Ying (Tia) Lim (2015 - 2016) -> Columbia M.S. Computer Science
- Gayatri (Jordan) Rai (2015 - 2016)

High School Students:

- Sidhika Balachandar (summer 2017) *Regeneron Science Talent Search Top 40 Finalist*  
-> Stanford Undergraduate
- Ruobin Han (summer 2017) -> Yale Undergraduate
- Kavita Selva (summer 2016) -> Stanford Undergraduate
- Clara-Ann Cheng (summer 2016) *RSI Presentation Award*
- Ishaan Bhojwani (summer 2015) -> U Chicago Undergraduate
- Krikor Hajian (summer 2015)