Edoardo Baldini

The University of Texas at Austin
Department of Physics, 105 E 24th Street
Austin, TX 78705

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Professional Experience

The University of Texas at Austin, USA — 01/2022 - present
Department of Physics
Assistant Professor

Massachusetts Institute of Technology, USA — 05/2017 - 12/2021
Department of Physics
Postdoctoral Fellow
Faculty Mentor: Nuh Gedik

Education

École Polytechnique Fédérale de Lausanne, Switzerland — 10/2012 - 04/2017
Ph.D. in Physics (with honors)
Advisors: Majed Chergui, Fabrizio Carbone

University of Pavia, Italy — 10/2010 - 09/2012
Master's Degree in Quantum Electronics (110/110 *summa cum laude*)

University of Pavia, Italy — 10/2007 - 07/2010
Bachelor's Degree in Electronic Engineering (110/110 *summa cum laude*)

Honors and Awards

1. AFOSR Young Investigator Program Award (2024)
2. W. M. Keck Foundation Science and Engineering Research Award (2023)
3. The University of Texas STARs Award (2022)
4. MDPI Materials 2021 Young Investigator Award (2020)
5. Materials Research Society (MRS), MRS Postdoctoral Award (2020)
6. American Chemical Society (ACS), ACS Physical Chemistry Young Investigator Award (2020)
7. MDPI Physics 2020 Young Investigator Award (2020)
8. American Physical Society (APS), Division of Laser Science "Carl E. Anderson" Award (2019)
9. IBM Award in Condensed Matter Physics, Zürich, Switzerland (2019)

10. Swiss National Science Foundation, Postdoc Mobility Fellowship (2018)
11. EPFL Doctorate Award 2018, "*Special distinction to the 10 best PhD theses in all fields*" (2018)
12. Springer Theses Award, "*for outstanding PhD research*" (2017)
13. EPFL Physics Doctoral School Award, "*Special distinction to the 3 best PhD theses in physics*" (2017)
14. Dimitris N. Chorafas Foundation Award, "*for outstanding work in selected fields in the engineering sciences, medicine and the natural sciences*" (2017)
15. Swiss National Science Foundation, Early Postdoc Mobility Fellowship (2016)
16. University of Pavia, Best Undergraduate Student Award (2013)
17. European iGEM Competition (Amsterdam), Gold Medal (2011)
18. University of Pavia, Merit Scholarship (2007/2008 - 2011/2012)

Publications

Books

1. **E. Baldini**, "*Nonequilibrium Dynamics of Collective Excitations in Quantum Materials*," Springer (2018).

Articles

† These authors contributed equally to this work

∗ Corresponding author

1. B. Q. Lv†, A. Zong†, D. Wu, Z. Nie, Y. Su, D. Choi, B. Ilyas, B. Fichera, J. Li, **E. Baldini**, M. Mogi, Y.-B. Huang, H. C. Po, S. Meng, Y. Wang, N. L. Wang, N. Gedik*, "Coexistence of Interacting Charge Density Waves in a Layered Semiconductor," in press at *Physical Review Letters* (2024).
2. W. He*, Y. Shen, K. Wohlfeld, J. Sears, J. Li, J. Pelliciari, S. Johnston, **E. Baldini**, V. Bisogni, M. Mitrano, M. P. M. Dean*, "Propagating Double-Magnon-Dressed Excitonic Quasiparticle in van der Waals Antiferromagnet $NiPS_3$," in press at *Nature Communications* (2024).
3. A. C. De Palma, X. Peng, S. Arash, F. Y. Gao, **E. Baldini**, X. Li, E. T. Yu*, "Elucidating Piezoelectricity and Strain in Monolayer MoS_2 at the Nanoscale Using Kelvin Probe Force Microscopy," *Nano Letters* 24, 1835-1842 (2024).
4. D. Lujan†, J. Choe†, S. Chaudhary* G. Ye, C. Nnokwe, M. Rodriguez-Vega, J. He, F. Y. Gao, T. N. Nunley, **E. Baldini**, J. Zhou, G. A. Fiete, R. He*, X. Li*, "Spin-Orbit-Exciton-Induced Phonon Chirality in a Quantum Magnet," *Proceedings of the National Academy of Sciences* 121, e2304360121 (2024).
5. Z. Zhang†, F. Y. Gao†, J. B. Curtis, Z.-J. Liu, Y.-C. Chien, A. von Hoegen, T. Kurihara, T. Suemoto, P. Narang, **E. Baldini***, K. A. Nelson*, "Terahertz-Field-Induced Nonlinear Coupling of Two Magnon Modes in an Antiferromagnet," *Nature Physics*, DOI:10.1038/s41567-024-02386-3 (2024).
6. Z. Zhang†, F. Y. Gao†, Y.-C. Chien, Z.-J. Liu, J. B. Curtis, E. R. Sung, X. Ma, W. Ren, S. Cao*, P. Narang, A. von Hoegen, **E. Baldini***, K. A. Nelson*, "Nonlinear Coupled Magnonics: Terahertz Field-Driven Magnon Upconversion," *Nature Physics*, DOI:10.1038/s41567-023-02350-7 (2024).

7. **E. Baldini***, "Searching for Phase Transitions in the Dark," *Nature* 622, 464-465 (2023).

8. J.-J. Shi†, Y.-Q. Bie†,*, A. Zong†, S. Fang, W. Chen, J. Han, Z. Cao, Y. Zhang, T. Taniguchi, K. Watanabe, X. Fu, V. Bulović, E. Kaxiras, **E. Baldini**, P. Jarillo-Herrero*, K. A. Nelson*, "Intrinsic $1T'$ Phase Induced in Atomically Thin $2H$-$MoTe_2$ by a Single Terahertz Pulse," *Nature Communications* 14, 5905 (2023).

9. **E. Baldini***, "Charges Tied with Magnetic Strings," *Nature Physics*, DOI:10.1038/s41567-023-02187-0 (2023).

10. Z. Zhang†, J. Zhang†, Z.-J. Liu†, N. S. Dahodl, W. Paritmongkol, N. Brown, Y.-C. Chien, Z. Dai, K. A. Nelson*, W. A. Tisdale, A. M. Rappe, **E. Baldini***, "Discovery of Enhanced Lattice Dynamics in a Single-Layered Hybrid Perovskite," *Science Advances* 9, eadg4417 (2023).

11. **E. Baldini**, A. Zong, D. Choi, C. Lee, M. H. Michael, L. Windgätter, I. I. Mazin, S. Latini, D. Azoury, B. Lv, A. Kogar, Y. Su, Y. Wang, Y. Lu, T. Takayama, H. Takagi, A. J. Millis, A. Rubio, E. A. Demler, N. Gedik*, "The Spontaneous Symmetry Breaking in Ta_2NiSe_5 is Structural in Nature," *Proceedings of the National Academy of Sciences* 120, e2221688120 (2023).

12. D. S. Kim†,*, Di Huang†,*, C. Guo, K. Li, D. Rocca, F. Y. Gao, J. Choe, D. Lujan, **E. Baldini**, S. Sharma, R. Shankar, S.-F. Lee, Y. Ping*, X. Li*, "Strongly Bound Excitons Reveal Local Spin Order in a van der Waals Antiferromagnet," *Advanced Materials* 2206585 (2023).

13. D. Shin, S. Latini, C. Schäfer, S. A. Sato, **E. Baldini**, U. De Giovannini, H. Hübener, A. Rubio*, "Simulating Terahertz Field-Induced Transient Ferroeletricity in Quantum Paraelectric $SrTiO_3$," *Physical Review Letters* 129, 167401 (2022).

14. F. Dirnberger†,*, R. Bushati†, B. Datta, A. Kumar, A. H. MacDonald, **E. Baldini***, V. M. Menon*, "Observation of Spin-Correlated Exciton-Polaritons in a van der Waals Magnet," *Nature Nanotechnology* 17, 1060-1064 (2022).

15. F. Y. Gao†, Z. Zhang†, Z. Sun, L. Ye, Y.-H. Cheng, Z.-J. Liu, J. G. Checkelsky, **E. Baldini***, K. A. Nelson*, "Snapshots of a Light-Induced Metastable Hidden Phase Driven by the Collapse of Charge Order," *Science Advances* 8, eabp9076 (2022).

16. J.-J. Shi, F. Y. Gao, Z. Zhang, H. Utzat, U. Barotov, A. Farahvash, J. Han, J. Deschamps, C.-W. Baik, K.-S. Cho, V. Bulović, A. P. Willard, **E. Baldini**, N. Gedik, M. G. Bawendi, K. A. Nelson*, "Terahertz Field-Induced Reemergence of Quenched Photoluminescence in Quantum Dots," *Nano Letters* 4, 1718 (2022).

17. C. A. Belvin†, **E. Baldini**†, I. Ö. Ozel, D. Mao, H. C. Po, C. J. Allington, S. Son, B. H. Kim, J. Kim, I. Hwang, J. H. Kim, J.-G. Park*, T. Senthil, N. Gedik*, "Exciton-Driven Antiferromagnetic Metal in a Correlated van der Waals Insulator," *Nature Communications* 12, 4837 (2021).

18. P. Piekarz*, D. Legut, **E. Baldini**, C. A. Belvin, T. Kołodziej, W. Tabiś, A. Kozłowski, Z. Kakol, Z. Tarnawski, J. Lorenzana, N. Gedik, A. M. Oleś, J. M. Honig, K. Parlinski, "Trimeron-Phonon Coupling in Magnetite," *Physical Review B* 103, 104303 (2021).

19. **E. Baldini**†, C. A. Belvin†, M. Rodriguez-Vega, I. Ö. Ozel, D. Legut, A. Kozłowski, A. M. Oleś, K. Parlinski, P. Piekarz, J. Lorenzana, G. A. Fiete, N. Gedik*, "Discovery of the Soft Electronic Modes of the Trimeron Order in Magnetite," *Nature Physics* 16, 541-545 (2020).

20. C. Lee, T. Rohwer, E. J. Sie, A. Zong, **E. Baldini**, J. Straquadine, P. Walmsley, D. Gardner, Y. S. Lee, I. R. Fisher, N. Gedik*, "High Resolution Time- and Angle-Resolved Photoemission Spectroscopy with 11 eV Laser Pulses," *Review of Scientific Instruments* 91, 043102 (2020).

21. **E. Baldini***, T. Palmieri, A. Dominguez, A. Rubio, M. Chergui*, "Giant Exciton Mott Density in Bulk Anatase TiO_2," *Physical Review Letters* 125, 116403 (2020).

22. J.-J. Shi†, **E. Baldini**†, S. Latini, S. A. Sato, Y. Zhang, B. C. Pein, P.-C. Shen, J. Kong, A. Rubio, N. Gedik, K. A. Nelson*, "Room Temperature Terahertz Electroabsorption Modulation by Excitons in Monolayer Transition Metal Dichalcogenides," *Nano Letters* 20, 5214-5220 (2020).

23. **E. Baldini***, M. A. Sentef, S. Acharya, T. Brumme, E. Sheveleva, F. Lyzwa, E. Pomjakushina, C. Bernhard, M. van Schilfgaarde, F. Carbone, A. Rubio*, C. Weber*, "Electron-Phonon-Driven Three-Dimensional Metallicity in an Insulating Cuprate," *Proceedings of the National Academy of Sciences* 117, 6409-6416 (2020).

24. T. Palmieri†, **E. Baldini**†,*, A. Steinhoff, A. Akrap, M. Kollár, E. Horváth, L. Forró, F. Jahnke, M. Chergui*, "Mahan Excitons in Room-Temperature Methylammonium Lead Bromide Perovskites," *Nature Communications* 11, 850 (2020).

25. **E. Baldini***, A. Dominguez, T. Palmieri, O. Cannelli, A. Rubio, P. Ruello, M. Chergui*, "Exciton Control in a Room-Temperature Bulk Semiconductor with Coherent Strain Pulses," *Science Advances* 5, eaax2937 (2019).

26. X. Li, T. Qiu, J. Zhang, **E. Baldini**, J. Lu, A. M. Rappe, K. A. Nelson*, "Terahertz-Field-Induced Ferroelectricity in Quantum Paraelectric $SrTiO_3$," *Science* 364, 1079-1082 (2019).

27. A. Zong†, A. Kogar†, Y.-Q. Bie, T. Rohwer, C. Lee, **E. Baldini**, E. Ergeçen, M. B. Yilmaz, B. Freelon, E. J. Sie, H. Zhou, J. Straquadine, P. Walmsley, P. E. Dolgirev, A. V. Rozhkov, I. R. Fisher, P. Jarillo-Herrero, B. V. Fine, N. Gedik*, "Evidence for Topological Defects in a Photo-Induced Phase Transition," *Nature Physics* 15, 27-31 (2019).

28. I. Ö. Ozel, C. A. Belvin, **E. Baldini**, I. Kimchi, S. Do, K.-Y. Choi, N. Gedik*, "Magnetic Field-Dependent Low-Energy Magnon Dynamics in α-$RuCl_3$," *Physical Review B* 100, 085108 (2019).

29. **E. Baldini***, T. Palmieri, A. Dominguez, P. Ruello, A. Rubio, M. Chergui*, "Phonon-Driven Selective Modulation of Exciton Oscillator Strengths in Anatase TiO_2 Nanoparticles," *Nano Letters* 18, 5007-5014 (2018).

30. **E. Baldini***, T. Kubacka, B. P. P. Mallett, C. Ma, S. M. Koohpayeh, Y. Zhu, C. Bernhard, S. L. Johnson, F. Carbone, "Lattice-Mediated Magnetic Order Melting in $TbMnO_3$," *Physical Review B* 97, 125149 (2018).

31. **E. Baldini**, T. Palmieri, E. Pomarico, G. Auböck, M. Chergui*, "Clocking the Ultrafast Electron Cooling in Anatase Titanium Dioxide Nanoparticles," *ACS Photonics* 5, 1241-1249 (2018).

32. **E. Baldini**, A. Mann, L. Benfatto*, E. Cappelluti*, A. Acocella, V. M. Silkin, S. V. Eremeev, A. B. Kuzmenko, S. Borroni, T. Tan, X. X. Xi, F. Zerbetto, R. Merlin, F. Carbone*, "Real-Time Observation of Phonon-Mediated σ-π Interband Scattering in MgB_2," *Physical Review Letters* 119, 097002 (2017).

33. **E. Baldini**, T. Palmieri, T. Rossi, M. Oppermann, E. Pomarico, G. Auböck, M. Chergui*, "Ultrafast Interfacial Electron Injection Probed by a Substrate-Specific Excitonic Signature," *Journal of American Chemical Society* 139, 11584-11589 (2017).

34. **E. Baldini***, A. Dominguez, L. Chiodo, E. Sheveleva, M. Yazdi-Rizi, C. Bernhard, A. Rubio, M. Chergui, "Anomalous Anisotropic Exciton Temperature Dependence in Rutile TiO_2," *Physical Review B* 96, 041204(R) (2017).

35. **E. Baldini***, L. Chiodo, A. Dominguez, M. Palummo, S. Moser, M. Yazdi-Rizi, G. Auböck, B. P. P. Mallett, H. Berger, A. Magrez, C. Bernhard, M. Grioni, A. Rubio, M. Chergui*, "Strongly Bound Excitons in Anatase TiO_2 Single Crystals and Nanoparticles," *Nature Communications* 8, 13 (2017).

36. **E. Baldini**, A. Mann, B. P. P. Mallett, C. Arrell, F. van Mourik, T. Wolf, D. Mihailovic, J. Tallon, C. Bernhard, J. Lorenzana, F. Carbone*, "Clocking the Onset of Bilayer Coherence in a High-T_C Cuprate," *Physical Review B* 95, 024501 (2017).

37. S. Borroni, **E. Baldini**, V. M. Katukuri, A. Mann, K. Parlinski, D. Legut, C. Arrell, F. van Mourik, J. Teyssier, A. Kozłowski, P. Piekarz, O. V. Yazyev, A. M. Oleś, J. Lorenzana, F. Carbone*, "Coherent Generation of Symmetry-Forbidden Phonons by Light-Induced Electron-Phonon Interactions in Magnetite," *Physical Review B* 96, 104308 (2017).

38. M. Oppermann, N. S. Nagornova, A. Oriana, **E. Baldini**, L. Mewes, B. Bauer, T. Palmieri, T. Rossi, F. van Mourik, M. Chergui*, "The LOUVRE Laboratory: State-of-the-Art Ultrafast Ultraviolet Spectroscopies for Molecular and Materials Science," *CHIMIA International Journal for Chemistry* 71, 5, 288-294 (2017).

39. **E. Baldini**†, A. Mann†, S. Borroni, C. Arrell, F. van Mourik, F. Carbone*, "A Versatile Setup for Ultrafast Broadband Optical Spectroscopy on Strongly Correlated Quantum Systems," *Structural Dynamics* 3, 064301 (2016).

40. A. Mann, **E. Baldini**, A. Odeh, A. Magrez, H. Berger, F. Carbone*, "Probing the Coupling between a Doublon Excitation and the Charge-Density Wave in TaS_2 by Ultrafast Optical Spectroscopy," *Physical Review B* 94, 115122 (2016).

41. J. Rajeswari, H. Ping, G. F. Mancini, Y. Murooka, T. Latychevskaia, D. McGrouther, M. Cantoni, **E. Baldini**, J. S. White, A. Magrez, T. Giamarchi, H. M. Rønnow, F. Carbone*, "Filming the Formation and Fluctuation of Skyrmion Domains by Cryo-Lorentz Transmission Electron Microscopy," *Proceedings of the National Academy of Sciences* 112, 46, 14212-14217 (2015).

42. F. G. Santomauro, A. Lubcke, J. Rittmann, **E. Baldini**, A. Ferrer, M. Silatani, P. Zimmermann, S. Grubel, J. A. Johnson, S. O. Marianger, P. Beaud, D. Grolimund, C. Borca, G. Ingold, S. L. Johnson, M. Chergui*, "Femtosecond X-Ray Absorption Study of Electron Localization in Photoexcited Anatase TiO_2," *Scientific Reports* 5, 14834 (2015).

43. A. Mann, **E. Baldini**, A. Tramontana, E. Pomjakushina, K. Conder, C. Arrell, F. van Mourik, J. Lorenzana, F. Carbone*, "Probing the Electron-Phonon Interaction in Correlated Systems with Coherent Lattice Fluctuation Spectroscopy," *Physical Review B* 92, 035147 (2015).

44. C. Lacava, P. Minzioni, **E. Baldini**, L. Tartara, J. M. Fedeli, I. Cristiani, "Nonlinear Characterization of Hydrogenated Amorphous Silicon Waveguides and Analysis of Carrier Dynamics," *Applied Physics Letters* 103, 141103 (2013).

45. L. Ferrara, **E. Baldini**, P. Minzioni, F. Bragheri, C. Liberale, E. Di Fabrizio, I. Cristiani, "Experimental Study of the Optical Forces Exerted by a Gaussian Beam within the Rayleigh Range," *Journal of Optics* 13, 075712 (2011).

Patents

1. **E. Baldini**, Y.-C. Chien, F. Y. Gao, Z.-J. Liu, K. A. Nelson, E. R. Sung, A. Von Hoegen, Z. Zhang, "Nonlinear Coupled Magnonics: Terahertz Field-Driven Magnon Upconversion" UT Tech ID 8016/BAL M.I.T. Case No. 24504J United States of America Serial No. 63/367607 (Filed July 2nd, 2022)

Teaching Experience

Invited Lecturer at International Schools:

- 2025/01 10th MaNEP Winter School, Saas Fee, Switzerland
  Invitation to deliver 3 lectures of 1.5 hours to an audience of 70 Ph.D. international students working in the field of condensed matter physics.

Teaching as Instructor:

- PHY 392P: Advanced Optical Spectroscopy, Graduate Degree in Physics, The University of Texas at Austin
  Fall 2023 Instructor Evaluation: 4.8/5
- PHY 303L: Engineering Physics II, Bachelor's Degree in Engineering, The University of Texas at Austin
  Spring 2022 Instructor Evaluation: 4.7/5
  Fall 2022 Instructor Evaluation: 4.6/5 Spring 2024 Instructor Evaluation: pending

Complementary Lectures as Teaching Assistant:

- 2014 - 2015 General Physics II (30 hours), Bachelor's Degree in Civil Engineering, EPFL
- 2013 - 2016 Electronic Spectroscopy (60 hours), Master's Degree in Physical Chemistry, EPFL
- 2012 - 2014 Atoms and Radiation (30 hours), Bachelor's Degree in Physics, EPFL

Support as Teaching Assistant:

- 2011 - 2012 Experimental Physics Laboratory (40 hours), Bachelor's Degree in Physics, University of Pavia
- 2011 - 2012 Electronics (30 hours), Bachelor's Degree in Electrical Engineering, University of Pavia
- 2009 - 2012 General Physics I, II ($>$ 200 hours), Bachelor's Degree in Electrical Engineering, University of Pavia

Advising

- Postdoctoral Researchers: Frank Yi Gao (2022 - present), Francesco Barantani (2023 - present), Saegyeol Jung (to start in 06/2024), Famin Chen (to start in 09/2024), Wenjing You (Sep. 2022 - Dec. 2023, now Optical Engineer at KLA Corporation)
- Ph.D. Thesis Advisees: Xinyue Peng (2022 - present), Alexandra Lee (2023 - present), Shangjie Zhang (2023 - present)
- Undergraduate Research Advisees: Sophia Garcia (2023 - present), Prakruti Raghunarayan (2022 - present), Neal Jare (Feb. 2022 - Feb. 2023, now Intern at Samsung Semiconductors)
- NSF Research Experiences for Undegraduate Avisees: Ian Sackin (2024, Shasta College), Joshua Rothstein (2024, University of Georgia)

Oral Presentations

Invited Talks

1. New York University, New York City, New York, USA, October 2024
2. Ultrafast Dynamics and Ultrafast Bandgap Photonics XI Symposium, Crete, Greece, June 2024
3. Boston University, Boston, Massachusetts, USA, May 2024
4. Goodenough Lecture Series, Austin, Texas, USA, March 2024
5. CNS Advisory Council, The University of Texas at Austin, Austin, Texas, USA, March 2024
6. APS March Meeting, Minneapolis, USA, March 2024
7. Simons Foundation, "Nonlinear Spectroscopies of Quantum Materials," New York City, USA, Feburary 2024
8. Gordon Research Conference "Ultrafast Phenomena in Cooperative Systems," Lucca, Italy, Feburary 2024
9. Physics and Chemistry of Surfaces and Interfaces, Santa Fe, New Mexico, USA, January 2024
10. Materials Research Society Fall Meeting, Boston, Massachusetts, USA, December 2023
11. The University of Texas at Dallas *(Colloquium)*, Dallas, Texas, USA, November 2023
12. The University of Texas at Austin, Acoustics Seminar, Austin, Texas, USA, October 2023
13. APS New Laser Scientists Conference, Tacoma, Washington, USA, October 2023
14. SSRL/LCLS-II User Meeting, Stanford University, California, USA, September 2023
15. Dynamic Control of Quantum Materials, Dresden, Germany, May 2023
16. Texas A&M University, College Station, Texas, USA, March 2023
17. University of California, San Diego, California, USA, March 2023
18. TU Dortmund, Dortmund, Germany, May 2022
19. Clemson University, Clemson, South Carolina, USA, February 2022
20. University of Notre Dame, Notre Dame, Indiana, USA, December 2021
21. ACS Southwest Regional Meeting, Austin, Texas, USA, November 2021
22. Physics Advisory Council, The University of Texas at Austin, Austin, Texas, USA, October 2021
23. University of California, Los Angeles, USA, October 2021
24. University of Birmingham, Birmingham, United Kingdom, June 2021
25. Radboud University, Nijmegen, Netherlands, April 2021
26. University of Toronto, Toronto, Canada, March 2021
27. University of Pennsylvania, Philadelphia, Pennsylvania, USA, March 2021
28. The University of Texas at Austin, Austin, Texas, USA, March 2021
29. California Institute of Technology, Pasadena, California, USA, February 2021
30. University of California, Berkeley, California, USA, January 2021
31. Massachusetts Institute of Technology *(Chez Pierre Seminar)*, Cambridge, Massachusetts, USA, December 2020
32. MRS Spring/Fall Meeting 2020 *(Awards session)*, November 2020
33. ACS Fall Meeting 2020 *(Awards session)*, August 2020

34. University of Pittsburgh, Pittsburgh, Pennsylvania, USA, July 2020
35. Brookhaven National Laboratory, Upton, New York, USA, June 2020
36. ARO Condensed Matter Physics Workshop, Raleigh, NC, USA, February 2020
37. Frontiers in Optics *(Awards session)*, Washington, DC, USA, September 2019
38. Swiss Physical Society Meeting *(Awards session)*, Zürich, Swizterland, August 2019
39. Flatiron Institute, "Materials in Quantum Cavities and Excitonic Insulators," New York City, USA, July 2019
40. Ultrafast Science from the Infrared to the X-Rays, Lausanne, Switzerland, November 2018
41. Harvard University, Cambridge, Massachusetts, USA, April 2018
42. École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland, February 2017
43. Princeton University, Princeton, New Jersey, USA, June 2016
44. Massachusetts Institute of Technology, Cambridge, Massachusetts, USA, June 2016
45. Max Planck Institute fur Struktur und Dynamik der Materie, Hamburg, Germany, February 2016
46. NCCR MUST Meeting *(Highlight talk)*, Engelberg, Switzerland, January 2016
47. Nonequilibrium Phenomena in Complex Matter, Krvavec, Slovenia, December 2015

Contributed Talks

1. Emergent Phenomena in Quantum Materials, Beverly, Massachusetts, USA, June 2019
2. APS March Meeting 2019, Boston, Massachusetts, USA, March 2019
3. 256th ACS National Meeting, Boston, Massachusetts, USA, August 2018
4. XXIst International Conference on Ultrafast Phenomena, Hamburg, Germany, July 2018
5. Ultrafast Phenomena in Quantum Physics, Lausanne, Switzerland , April 2016
6. New Generation in Strongly Correlated Electron Systems 2015, Trogir, Croatia, September 2015
7. Materials and Mechanisms of Superconductivity, Geneva, Switzerland, August 2015
8. 3rd International Conference on Ultrafast Structural Dynamics, Zürich, Switzerland, June 2015

Synergistic Activities

Internal Activities, The University of Texas at Austin

- Physics Department Faculty Hiring Committee (Condensed Matter Experiment), 2022 - present
- Physics Department Graduate Admissions Committee, 2022 - present
- Physics Department APS Bridge Committee, 2022 - 2023
- Physics Department Outreach Committee, 2023 - present
- Organizer of Ψ (Physicists Supporting Inclusion) Mentoring Program for Physics Undergraduate Students from Underrepresented Minorities, 2022 - present
- Reviewer for the Office of the Vice President for Research, Scholarship and Creative Endeavors, 2022 - present

External Activities

- Conference Organization:
  The Gordon and Betty Moore Foundation
  Emergent Phenomena in Quantum Systems (EPiQS)
  Symposium for Postdoctoral Scholars
  Austin, TX (2023); Salt Lake City, UT (2024); Pasadena, CA (2025)

- Monthly Seminar Organization:
  The Gordon and Betty Moore Foundation
  Emergent Phenomena in Quantum Systems (EPiQS)
  Online Seminars for Postdoctoral Scholars

- Technical Program Committee:
  - CLEO 2023-2025 "Quantum Optics of Atoms, Molecules, and Solids" session
  - APS March Meeting 2025 "Light-Induced Dynamical Control of Electronic Phases" focus topic session

- Journal Reviewer: Advanced Materials, Applied Physics Letters, Applied Sciences, Condensed Matter, Journal of Applied Physics, Nano Letters, Nanomaterials, Nature, Nature Communications, Nature Physics, npj Quantum Materials, Physical Review A, Physical Review B, Physical Review Letters, Physical Review Research, Physical Review X, Proceedings of the National Academy of Sciences, Review of Scientific Instruments, Science Advances, Scientific Reports, Structural Dynamics, Symmetry.

- Proposal Reviewer: Center for Integrated Nanotechnologies, Deutsche Forschungsgemeinschaft, Israel Science Foundation, Israeli Ministry of Innovation Science and Technology, Photonique Quantique Québec, Agence Nationale de la Recherche, U.S. Department of Energy, W. M. Keck Foundation.

- External Faculty Hiring Committee Member: TU Dortmund.

- Memberships: American Physical Society, Materials Research Society.