

Meng-Ju (Renee) Sher

265 Church St. Rm 239, Middletown, CT 06459

<http://msher.faculty.wesleyan.edu/>

860-685-2033, msher@wesleyan.edu

EDUCATION

Harvard University, Cambridge, MA

Ph.D., Physics, May 2013

A.M., Physics, June 2009

Wesleyan University, Middletown, CT

B.A., Physics with high honors, May 2007

EMPLOYMENT

Assistant Professor of Physics

Physics Department, Wesleyan University, Middletown, CT

2016 – present

Affiliated faculty – Assistant Professor, Environmental Studies

Bailey College of the Environment, Wesleyan University, Middletown, CT

2017 – present

Affiliated faculty – Assistant Professor, Integrative Sciences

College of Integrative Sciences, Wesleyan University, Middletown, CT

2016 – present

Acting Assistant Professor

Materials Science and Engineering, Stanford University, Stanford, CA

2015 – 2016

Postdoctoral Scholar

Stanford University and SLAC National Accelerator Laboratory, Menlo Park, CA

Advisor: Aaron M. Lindenberg

2013 – 2015

Graduate Research Assistant

Department of Physics, Harvard University, Cambridge, MA

Advisor: Eric Mazur

2008 – 2013

Teaching Consultant

Derek Bok Center for Teaching and Learning, Harvard University, Cambridge, MA

2011 – 2013

HONORS and AWARDS

Harvard White Prize for Excellence in Teaching of Physics

2013 and 2014

SPIE 2013 Green Photonics Award

2013

Harvard Purcell Fellowship

2007

Wesleyan Bertman Prize

2007

– for physics senior with resourceful and creative approach to physics research

Wesleyan Johnston Prize

2004

– awarded to first-year students who show exceptional promise in physics

Phi Beta Kappa

2006

Wesleyan Freeman Scholar

2003 – 2007

– four-year full scholarships for students from Taiwan and 10 other Asian countries

TEACHING and MENTORINGWesleyan University

PHYS113 – General Physics I	2019 – 2022
PHYS214 – Quantum Mechanics I	2018 – 2020
PHYS316 – Thermal and Statistical Physics	2025
PHYS342 – Experimental Optics	2017– 2018, and 2023 –2024
PHYS345 – Electronics Lab	2023 – 2025
PHYS505/506 – Condensed Matter Physics Seminar	2019, 2020, 2023 – 2025
PHYS521 – Physics Colloquium I	2019, 2021
PHYS573/574 – Advanced Topics: Applied Optics	2018 and 2024
PHYS573/575 – Advanced Topics: Physics of Solar Cells	2017 and 2022

Stanford University

MATSCI153 – Nanostructure and Characterization	2015 and 2016
MATSCI163/173 – Mechanical Behavior Laboratory	2015

B.A. student research

PHYS423/424 – Advanced Research Seminar and Research in Sciences Summer Program, excluding students completing senior and BA/MA theses

- Ahmed Kabuya, Summer 2025 – present
- Leo Sullivan, Fall 2024 – present
- Eliah Seignourel, Fall 2024 – present
- Rebecca Schechter, Fall 2023 – present
- Tre Sturgeon, Summer 2023 – present
- Teddy Manning, Summer 2023
- Emmet Sherman, Fall 2020 – Spring 2021 (*co-authored one publication*)
- Sacorit ‘Zack’ Thong, Spring 2019 – Spring 2020
- Abe Kipnis, Fall 2018 – Spring 2019
- Polly Pierone, Spring 2018 – Spring 2020 (*co-authored three publications*)
- Tony Jianbang Liu, Spring 2018 – Summer 2019
- Zi Hui Zhang, Summer 2017

PHYS409/410 or CHEM409/410 – Senior Thesis Tutorials

- Kevin Liao, “Analyzing Halide Segregation in Mixed Halide Perovskites using Confocal Microscopy and Grain Type Classification” Honors, 2025
- Jessica Luu, “Probing the Electronic Properties of Gold Nanorods Using Terahertz Time-Domain Spectroscopy,” High Honors, 2024
- Charlie Pedorella, “Identifying Temperature Dependent Phase Changes in $\text{Cs}_{0.17}\text{FA}_{0.83}\text{Pb}(\text{I}_{1-x}\text{Br}_x)_3$ Through the Analysis of Charge Carrier Dynamics,” Honors, 2024 (*co-authored two publications*)
- Bin Yun, “Enhanced pump-probe terahertz spectroscopy setup and the analysis of the charge carrier lifetime in solar cells,” Honors, 2023
- Qianao (Billy) Yue, “Understanding Carrier Dynamics in Tellurium Hyperdoped Silicon Semiconductor,” Honors, 2023 (*co-authored two publications*)
- Jack Root, “Measuring Lifetimes of Solar Cell Materials Using Terahertz Absorption and Continuous Wave Laser Excitation,” High Honors, 2022
- Kellen O’Brien, “Higher Order Recombination Rates of Semiconductors,” Honors, 2021 (*co-authored one publication*)
- Nicole Pallat, “Influence of Dopant Concentration Profiles on Charge Carrier Lifetimes in Gold Hyperdoped Silicon,” Honors, 2021 (*co-authored one publication*)
- Rhoe Fiutak, “Understanding lifetime dynamics in gold hyperdoped-silicon solar cells,” Honors, 2019 (*co-authored two publications*)

- Matthew Erodici, “Comparing the influence of rubidium and cesium dopants on charge carrier dynamics and microstructure in hybrid organic-inorganic perovskite thin films,” High Honors, 2019 (*lead author in one publication and co-authored two publications*)

M.A. student research

BA/MA Thesis

- George Blinick, “The development of long timescale terahertz spectroscopy techniques to measure lifetimes of photovoltaic materials,” 2020

PhD student research

PhD Thesis

- Senali Dissanayake, “Investigation of Charge Carrier Dynamics in Hyperdoped Semiconductors using Terahertz Spectroscopy,” 2022 (*lead author in three publications, co-authored two publications*)

PHYS549/550 – Advanced Research Seminar

- Bidisha Mujid Logno, Fall 2023 – present
- Ashikur Rahman, Fall 2021 – present (*lead author in one publication*)

ACADEMIC SERVICE

National

Organizing committee of Shining Light on Matter and Mind II: A Symposium Honoring Eric Mazur	2024
Co-organizer of Alliance to Advance Liberal Arts Colleges (AALAC) Workshop – Building a Renewable Future within the Liberal Arts	2024
Technical Program Committee member of the IRMMW-THz 2023 conference, Montreal, Canada	2023 – present
Served on NSF proposal review panel	2023 and 2025
Symposium organizer for European Materials Research Society 2022 Spring meeting – Symposium B: Ultra-doped semiconductors by non-equilibrium processing for electronic, photonic and spintronic applications	2022
CLEO committee member of CLEO conferences, San Jose, CA Science and Innovation 1: Light-matter Interactions and Materials Processing	2018 – 2021
Organizing committee of the 2017 EITA Conference on New Materials, Nanotechnology and New Energy, July 1, Ann Arbor, MI	2017
Journal referee for Scientific Reports, IEEE Journal of Quantum Electronics, Applied Physics B, Applied Surface Science, Laser Physics Letters, Journal of Materials Science, Journal of Physical Chemistry, Journal of Applied Physics, ACS Omega, APL Photonics, APL Materials, Applied Physics Letters, Advanced Energy and Sustainability Research, Solar Energy Materials and Solar Cells	2016 – present

Campus

Freeman Scholar faculty advisor	2022 – present
Phi Beta Kappa Committee	2021– 2024
University lecture organizer: interactive teaching workshop with Eric Mazur	2020
Faculty co-organizer for Girls in Science Summer Camp	2019 – present
Laser Safety Officer	2019 – present

Department

Physics curriculum committee

2025 – present

Physics graduate admission committee

2018 – 2025

FUNDINGInternal

Grants in Support of Scholarship (GISOS) General, and Student-Faculty Research Internships (\$750 – \$8,613/year)

2017 – 2025

College of the Environment Faculty-Led Research Project Grants, \$7,000

2018 – 2019

External

NASA Connecticut Space Grant Consortium award for Wesleyan Girls in Science Summer Camp, \$2,000

2024

Time- and depth-resolved charge carrier transport in phase stable hybrid perovskites, NSF- LEAPS-MPS 2316827, \$238,316

2023 – 2025

NASA Connecticut Space Grant Consortium award for Wesleyan Girls in Science Summer Camp, \$2,000

2023

Feasibility Study of Reflective Photonic Limiters Based on Phase-change Defect Cavities, Subcontract from WYLE Laboratories, Inc. Co-PI: Tsampikos Kottos, \$44,000

2017

Acquisition of a Field-Emission Scanning Electron Microscope to Enhance Multidisciplinary Research and Education, NSF-MRI 1725491, *Senior Personnel* under Michelle Personick and Jim Greenwood \$202,300

2017 – 2020

PUBLICATIONS

(underlined authors are Wesleyan graduate students, double underlined authors are Wesleyan undergraduate students, † indicate high impact journals with impact factor greater than 8)

Current *h*-index: 22Refereed Publications at Wesleyan:

1. Temperature Dependent Dynamics of Charge Carriers in Tellurium-Hyperdoped Silicon, K. M. A. Rahman, M. S. Shaikh, Q. Yue, S. S. Dissanayake, M. Wang, S. Zhou, **M.-J. Sher**, *Advanced Electronic Materials*, 11, 2400417 (2025)
2. Br-Induced Suppression of Low-Temperature Phase Transitions in Mixed Cation Mixed Halide Perovskites, J. Hidalgo, J. Breternitz, D. M. Többs, D. K. LaFollette, C. N. B. Pedorella, **M.-J. Sher**, S. Schorr, J.-P. Correa-Baena, *Chemistry of Materials* 36, 10167 (2024)
3. Temperature-Dependent Recombination Dynamics of Photocarriers in CsPbBr₃ Microcrystals Revealed by Ultrafast Terahertz Spectroscopy, S. H. Lee, K. Moon, M. Shoaib, C. N. B. Pedorella, K. O'Brien, **M.-J. Sher**, S. Kim, T. L. Cocker, *Advanced Optical Materials*, 12, 2401162 (2024) †
4. Bulky cation hinders undesired secondary phases in FAPbI₃ perovskite solar cells, J. Hidalgo, L. Atourki, R. Li, A.-F. Castro-Mendez, S. Kim, E.A. Sherman, A. S. Bieber, **M.-J. Sher**, L. Nienhaus, C. A. R. Perini, and J.-P. Correa-Baena, *Materials Today*, 68, 13 (2023) †
5. Hyperdoped silicon materials: from basic materials properties to sub-bandgap infrared photodetectors, **M.-J. Sher** and E. García-Hemme, *Semiconductor Science and Technology*, 38 033001 (2023) *Invited review

6. Impact of ion implantation and laser processing parameters on carrier lifetimes in gold-hyperdoped silicon, S. S. Dissanayake, P. K. Chow, S. Q. Lim, W. Yang, R. Fiutak, J. S. Williams, J. M. Warrender, and **M.-J. Sher**, *Semiconductor Science and Technology*, 38, 024003 (2023)
7. Carrier lifetimes in gold-hyperdoped silicon – influence of dopant incorporation methods and concentration profiles, S. S. Dissanayake, N. O. Pallat, P. K. Chow, S. Q. Lim, Y. Liu, Q. Yue, R. Fiutak, J. Mathews, J. S. Williams, J. M. Warrender, and **M.-J. Sher**, *APL Materials*, 10, 111106 (2022)
8. Cellular breakdown and carrier lifetimes in gold-hyperdoped silicon, Q. M. Hudspeth, M. Altwerger, P. K. Chow, **M.-J. Sher**, S. S. Dissanayake, W. Yang, J. Maurer, S. Q. Lim, J. S. Williams, H. Efsthadiadis, and J. M. Warrender, *Semiconductor Science and Technology*, 37, 124003 (2022)
9. Understanding the interplay between structure and charge transport in alloyed lead-free perovskites, A. G. Boldyreva, S. Sun, P. J. Pierone, F. Talalaev, J. Thapa, N. T. P. Hartono, **M.-J. Sher**, T. Buonassisi, P. A. Troshin, and K. J. Stevenson, *Sustainable Energy & Fuels*, 5, 5454 (2021)
10. Carrier dynamics and absorption properties of gold-hyperdoped germanium: insight into tailoring defect energetics, S. S. Dissanayake, N. Ferdous, H. H. Gandhi, D. Pastor, T. Tran, J. S. Williams, M. J. Aziz, E. Mazur, E. Ertekin, and **M.-J. Sher**, *Physical Review Applied*, 15, 064058 (2021)
11. Enhanced charge carrier lifetime and mobility as a result of Rb and Cs incorporation in hybrid perovskite, M. P. Erodici, P. J. Pierone, N. T. P. Hartono, J. Hidalgo, B. Lai, T. Buonassisi, J.-P. Correa-Baena, and **M.-J. Sher**, *Applied Physics Letters*, 118, 063901 (2021)
12. The effect of structural dimensionality on carrier mobility in lead-halide perovskites, N. T. P. Hartono, S. Sun, M. C. Gélvez-Rueda, P. J. Pierone, M. P. Erodici, J. Yoo, F. Wei, M. Bawendi, F. C. Grozema, **M.-J. Sher**, T. Buonassisi, and J.-P. Correa-Baena, *Journal of Materials Chemistry A*, 7, 23949 (2019) †
13. Enhanced charge carrier mobility and lifetime suppress hysteresis and improve efficiency in planar perovskite solar cells, S.-H. Turren-Cruz, M. Saliba, M. T. Mayer, H. Juárez-Santiesteban, X. Mathew, L. Nienhaus, W. Tress, M. P. Erodici, **M.-J. Sher**, M. G. Bawendi, M. Grätzel, A. Abate, A. Hagfeldt, and J.-P. Correa-Baena, *Energy & Environmental Science*, 11, 78 (2018) †
14. Dynamic optical tuning of interlayer interactions in the transition metal dichalcogenides, E. M. Mannebach, C. Nyby, F. Ernst, Y. Zhou, J. Tolsma, Y. Li, **M.-J. Sher**, I.-C. Tung, H. Zhou, Q. Zhang, K. L. Seyler, G. Clark, Y. Lin, D. Zhu, J. M. Glowina, M. E. Kozina, S. Song, S. Nelson, A. Mehta, Y. Yu, A. Pant, O. B. Aslan, A. Raja, Y. Guo, A. DiChiara, W. Mao, L. Cao, S. Tongay, J. Sun, D. J. Singh, T. F. Heinz, X. Xu, A. H. MacDonald, E. Reed, H. Wen, A. M. Lindenberg, *Nano Letters*, 17, 7761 (2017) †
15. Ultrafast terahertz-field-driven ionic response in ferroelectric BaTiO₃, F. C. Chen, Y. Zhu, S. Liu, Y. Qi, H. Y. Hwang, N. C. Brandt, J. Lu, F. Quirin, H. Enquist, P. Zalden, T. Hu, J. Goodfellow, **M.-J. Sher**, M. C. Hoffmann, D. Zhu, H. Lemke, J. Glowina, M. Chollet, A. R. Damodaran, J. Park, Z. Cai, I. W. Jung, M. J. Highland, D. A. Walko, J. W. Freeland, P. G. Evans, A. Vailionis, J. Larsson, K. A. Nelson, A. M. Rappe, K. Sokolowski-Tinten, L. W. Martin, H. Wen, A.M. Lindenberg, *Physical Review B*, 94, 180104(R) (2016)
16. THz-driven ultrafast spin-lattice scattering in amorphous metallic ferromagnets, S. Bonetti, M. C. Hoffmann, **M.-J. Sher**, Z. Chen, S.-H. Yang, M. G. Samant, S. S. P. Parkin, H. A. Dürr, *Physical Review Letters*, 117, 087205 (2016) †

Refereed Publications Prior to Joining Wesleyan:

17. Mechanism for broadband white-light emission from two-dimensional (110) hybrid perovskites, T. Hu, M. D. Smith, E. R. Dohner, **M.-J. Sher**, X. Wu, M. Trinh, A. Fisher, J. Corbett, X.-Y. Zhu, H. I. Karunadasa, A. M. Lindenberg, *Journal of Physical Chemistry Letters*, 7, 2258 (2016)
18. Picosecond electric field induced threshold switching in phase-change materials, P. Zalden, M. J. Shu, F. Chen, X. Wu, Y. Zhu, H. Wen, S. Johnston, Z.-X. Shen, P. Landreman, M. Brongersma, S. W. Fong, H.-S. Philip Wong, **M.-J. Sher**, P. Jost, M. Kaes, M. Salinga, A. von Hoegen, M. Wuttig, A. M. Lindenberg, *Physical Review Letters*, 117, 067601 (2016) †

19. Time- and temperature-independent local carrier mobility and effects of regioregularity in polymer-fullerene organic semiconductors, **M.-J. Sher**, J. A. Bartelt, T. M. Burke, A. Salleo, M. D. McGehee, A. M. Lindenberg, *Advanced Electronic Materials*, 2, 1500351 (2016)
20. Transient terahertz photoconductivity measurements of minority-carrier lifetime in tin sulfide thin films: Advanced metrology for an early stage photovoltaic material, R. Jaramillo, **M.-J. Sher**, B. K. Ofori-Okai, V. Steinmann, C. Yang, K. Hartman, K. A. Nelson, A. M. Lindenberg, R. G. Gordon, T. Buonassisi, *Journal of Applied Physics*, 119, 035101 (2016)
21. Femtosecond-laser hyperdoping silicon in an SF₆ atmosphere: the dopant incorporation mechanism, **M.-J. Sher**, N. Mangan, M. J. Smith, Y.-T. Lin, S. Marbach, T. M. Schneider, S. Gradečak, M. P. Brenner, E. Mazur, *Journal of Applied Physics*, 117, 125301 (2015)
22. Ultrafast electronic and structural response of monolayer MoS₂ under intense photoexcitation conditions, E. M. Mannebach, K. N. Duerloo, L. Pellouchoud, **M.-J. Sher**, S. Nah, Y. Kuo, Y. Yu, A. Marshall, L. Cao, E. J. Reed, A. M. Lindenberg, *ACS Nano*, 8, 10734 (2014) †
23. Picosecond carrier recombination dynamics in chalcogen-hyperdoped silicon, **M.-J. Sher**, C.B. Simmons, J. J. Krich, A. J. Akey, M. T. Winkler, D. Recht, T. Buonassisi, M. J. Aziz, and A. M. Lindenberg, *Applied Physics Letters*, 105, 053905 (2014)
24. Intermediate band conduction in femtosecond-laser hyperdoped silicon, **M.-J. Sher** and E. Mazur, *Applied Physics Letters*, 105, 032103 (2014)
25. Improving dopant incorporation during femtosecond- laser doping of Si with a Se thin-film dopant precursor, M. J. Smith, **M.-J. Sher**, B. Franta, Y.-T. Lin, E. Mazur and S. Gradečak, *Applied Physics A*, 114, 1009 (2014)
26. Mid-infrared absorptance of silicon hyperdoped with chalcogen via fs-laser irradiation, **M.-J. Sher**, Y.-T. Lin, M. T. Winkler, E. Mazur, C. Pruner and A. Asenbaum, *Journal of Applied Physics*, 113, 063520 (2013)
27. Extended X-ray absorption fine structure spectroscopy of selenium-hyperdoped silicon, B. K. Newman, E. Ertekin, J. T. Sullivan, M.T. Winkler, M. A. Marcus, S. Fakra, **M.-J. Sher**, E. Mazur, J. C. Grossman and T. Buonassisi, *Journal of Applied Physics*, 114, 133507 (2013)
28. Selenium segregation in femtosecond-laser hyperdoped silicon revealed by electron tomography G. Haberer, M. J. Smith, J. Idrobo, G. Auvert, **M.-J. Sher**, M. T. Winkler, E. Mazur, N. Gambacorti, S. Gradečak and P. Bleuet *Microscopy and Microanalysis* 19, 716 (2013)
29. The origins of pressure-induced phase transformations during the surface texturing of silicon using femtosecond laser irradiation, M. J. Smith, **M.-J. Sher**, B. Franta, Y.-T. Lin, E. Mazur and S. Gradečak, *Journal of Applied Physics*, 112, 083518 (2012)
30. Studying femtosecond-laser hyperdoping by controlling surface morphology, M. T. Winkler, **M.-J. Sher**, Y.-T. Lin, M. J. Smith, H. Zhang, S. Gradečak, E. Mazur, *Journal of Applied Physics*, 111, 093511 (2012)
31. Pulsed-laser hyperdoping and surface texturing for photovoltaics, **M.-J. Sher**, M. T. Winkler, E. Mazur, *MRS Bulletin*, 36, 439 (2011)
32. Reactivation of sub-bandgap absorption in hyper-doped silicon, **M.-J. Sher**, B. K. Newman, E. Mazur, T. Buonassisi, *Applied Physics Letters*, 98, 251905 (2011)
33. Insulator-to-metal transition in sulfur-doped silicon, M.T. Winkler, D. Recht, **M.-J. Sher**, A. J. Said, E. Mazur and M. J. Aziz, *Physical Review Letters*, 106, 178701 (2011) †
34. Pressure-induced phase transformations during femtosecond-laser doping of silicon, M. J. Smith, Y.-T. Lin, **M.-J. Sher**, M. T. Winkler, E. Mazur, S. Gradečak, *Journal of Applied Physics*, 110, 053524 (2011)

35. The effects of a thin film dopant precursor on the structure and properties of fs- laser irradiated silicon, M. J. Smith, M. T. Winkler, **M.-J. Sher**, Y.-T. Lin, E. Mazur, S. Gradečak, *Applied Physics A*, 105, 795 (2011)

Conference Proceedings:

1. Temperature Dependent Dynamics of Charge Carriers in Tellurium-Hyperdoped Silicon, K. M. A. Rahman, M. S. Shaikh, Q. Yue, S. S. Dissanayake, S. Zhou, and **M.-J. Sher**, *2023 48th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz)*, 2021, Montreal, QC, Canada
2. Investigating Implantation Damage of Hyperdoped Semiconductors, S. S. Dissanayake, P. K. Chow, S. Q. Lim, J. S. Williams, J. M. Warrender, **M.-J. Sher**, *2021 46th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz)*, 2021, virtual
3. Carrier Lifetime of Au-Hyperdoped Ge using Terahertz Spectroscopy, S. S. Dissanayake, N. Ferdous, H. Gandhi, E. Mazur, E. Ertekin, **M.-J. Sher**, *2020 46th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz)*, 2020, virtual
4. Improving Carrier Lifetime of Au-Hyperdoped Si by Material Tailoring, S. S. Dissanayake, P. K. Chow, J. M. Warrender, and **M.-J. Sher**, *2020 45th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz)*, 2020, virtual
5. *Green Photonics Award for laser-assisted manufacturing and micro/nano fabrication*
The photovoltaic potential of femtosecond-laser textured amorphous silicon, **M.-J. Sher**, K. Hammond, L. Christakis, E. Mazur, *SPIE 2013 Photonics West Conference Proceedings*, 2013, San Francisco, CA
6. Light trapping for thin silicon solar cells by femtosecond laser, B.G. Lee, Y.-T. Lin, **M.-J. Sher**, E. Mazur, H. M. Branz, *IEEE Photovoltaic Specialists Conference Proceedings*, 2012, Austin, TX
7. *Green Photonics Award for laser-assisted manufacturing and micro/nano fabrication*
Femtosecond laser doping and nanostructuring of silicon for photovoltaics, B. Franta, **M.-J. Sher**, Y.-T. Lin, K. C. Phillips, E. Mazur, *SPIE 2012 Photonics West Conference Proceedings*, 2012, San Francisco, CA
8. Illuminating the mechanism for sub-bandgap absorption in chalcogen doped silicon materials for PV applications, B. K. Newman, J. T. Sullivan, M. T. Winkler, **M.-J. Sher**, M. A. Marcus, S. Fakra, M. J. Smith, S. Gradečak, E. Mazur, T. Buonassisi, *24th European Photovoltaic Solar Energy Conference Proceedings*, 2009, Hamburg, Germany

SELECTED PRESENTATIONS

Invited Conference Talks:

1. Alliance to Advance Liberal Arts Colleges (AALAC) Workshop – Building a Renewable Future within the Liberal Arts, Jan. 10, 2024, Wellesley, MA
Invited talk: Remotely probing electron movements in hybrid perovskite solar cell materials
2. MRS Spring meeting, May. 11, 2022, Honolulu, HI
Invited talk: Charge carrier transport in hyperdoped semiconductors
3. Eighteenth Annual Molecular Biophysics Retreat, Sep. 28, 2017, Middletown, CT
Invited talk: Tracking electron motions using terahertz spectroscopy
4. 2017 EITA Conference on New Materials, Nanotechnology and New Energy, July 1, 2017, Ann Arbor, MI
Invited talk: Terahertz spectroscopy: tracking charge carrier motions in organic solar cells

Contributed Conference Talks and Posters:

1. GRC Unconventional Semiconductors and Their Applications, June. 16–21, 2024, Easton, MA
Poster: Terahertz carrier lifetime and mobility in halide perovskites

2. European MRS Fall meeting, Sep. 19, 2023, Warsaw, Poland
Oral presentation by collaborator Daniel Caudevilla: Lifetime and optoelectronic characteristics of Ti hyperdoped Si photodiodes
3. 48th IRMMW-THz, Sep. 19, 2023, Montreal, Canada
Poster presented by K.M.A. Rahman: Temperature Dependent Dynamics of Charge Carriers in Tellurium-Hyperdoped Silicon
4. European MRS Spring meeting, May 31, 2022, virtual
Oral presentation: Carrier Lifetimes in Gold-Hyperdoped Silicon – Influence of Dopant Incorporation Methods and Concentration Profiles
Oral presentation by K.M.A. Rahman: Temperature-dependent charge carrier dynamics of tellurium-hyperdoped silicon
5. The International Conference on IRMMW-THz, Sep. 9, 2021, virtual
Oral presentation by S. Dissanakyake: Investigating Implantation Damage of Hyperdoped Semiconductors
6. 31st International Conference on Defects in Semiconductors, July 26, 2021, virtual
Oral presentation by S. Dissanakyake: on Implantation Damage of Hyperdoped Semiconductors Investigated Using Time-resolved Terahertz Spectroscopy
7. MRS Fall meeting, Nov. 20, 2020, virtual
Oral presentation by S. Dissanakyake: Evaluation of tellurium-hyperdoped silicon for photovoltaic applications
8. The International Conference on IRMMW-THz, Nov. 8, 2020, virtual
Posters presented by S. Dissanakyake: Evaluating charge carrier lifetime of laser hyperdoped germanium using terahertz spectroscopy; Improving charge carrier lifetime of Gold-hyperdoped silicon by material tailoring
9. CLEO, May14, 2020, virtual
Oral presentation by S. Dissanakyake: Evaluating charge carrier lifetime of laser hyperdoped germanium using terahertz spectroscopy
10. MRS Fall meeting, Dec. 2, 2019, Boston MA
Oral presentation by S. Dissanakyake: Dopant profile engineering to improve charge carrier lifetime in gold-hyperdoped silicon
11. APS March meeting, Mar. 7, 2019, Boston MA
Poster presented by J. Liu: Phase-change materials for photonic limiters
Poster presented by P. Pierone: Enhanced charge carrier lifetime in layered 2D hybrid perovskites
12. MRS Fall meeting, Nov. 25, 2018, Boston MA
Poster presented by S. Dissanakyake: Figure-of-merit evaluation of gold-hyperdoped silicon for photovoltaic applications
13. GRC Defects in Semiconductors, Aug. 19–24, 2018, New London, NH
Poster: Evaluating carrier lifetimes in laser hyperdoped silicon using terahertz spectroscopy
14. CLEO, May15, 2018, San Jose, CA
Oral presentation: Evaluating carrier lifetimes in hyperdoped silicon using terahertz spectroscopy

Invited Seminars and Colloquia:

1. Physics Colloquium, Williams College, Williamstown, MA, May 2024
2. Physics Seminar, Macalester College, Saint Paul, MN, Apr. 2024
3. Physics Colloquium, Worcester Polytechnic Institute, Worcester, MA, Nov. 2023
4. Physics Colloquium, Middlebury College, Middlebury, VT, Oct. 2019

5. Physics Colloquium, Wellesley College, Wellesley, MA, Apr. 2019
6. Physics Colloquium, Adelphi University, Garden City, NY, Sep. 2018

Outreach presentations:

1. Panelist, Academic Career Panel, Department of Physics, Harvard University, Cambridge, MA, Nov. 2018
2. Panelist, WESEMINAR The Future is Female: Wesleyan Women in the Workplace, Middletown, CT, May 2017
3. Panelist, 24th Annual Dwight L. Greene Symposium: Opportunities and Challenges in Higher Ed, Middletown, CT, Oct. 2016