

**a. Professional Preparation:**

Sharif University of Technology	Physics	Bachelor of Science	1998
Washington University in St Louis		Physics	PhD 2004
Harvard University	Physics		Postdoctoral fellow 2004-9

Undergraduate advisor, Mohammad Akhavan, Sharif University, Department of Physics

Graduate advisor, James S. Schilling, Washington University in St. Louis, Physics Department

Postdoctoral advisor, Isaac F. Silvera, Harvard University, Physics Department

**b. Appointments:**

Associate Professor of Physics		2015-
Present		
Assistant Professor of Physics, University of Utah		2010-
15		
Research Fellow, Harvard University, Department of Physics		2007-9
Postdoctoral Fellow, Harvard University, Department of Physics		2004-7

**c. Publications:**

1. "Suppression of ferromagnetism governed by a critical lattice parameter in  $CeTiGe_3$  with hydrostatic pressure or V substitution" Jin, Hanshang, Weizhao Cai, Jared Coles, Jackson R. Badger, Peter Klavins, Shanti Deemyad, and Valentin Taufour. **Physical Review B.**; 106, no. 7 (2022): 075131.
2. "Structure and pressure dependence of the Fermi surface of lithium" Bhowmick, Tushar, Sabri F. Elatresh, Audrey D. Grockowiak, William Coniglio, Mohammad Tomal Hossain, Elisabeth J. Nicol, Stanley W. Tozer, Stanimir A. Bonev, and Shanti Deemyad. **Physical Review B.**; 106, no. 4 (2022): L041112.
3. "Pressure-induced metallization in the absence of a structural transition in the layered ferromagnetic insulator  $Cr_2Ge_2Te_6$ " Cai, Weizhao, Luo Yan, Su Kong Chong, Jingui Xu, Dongzhou Zhang, Vikram V. Deshpande, Liujiang Zhou, and Shanti Deemyad\*. **Physical Review B.**; 106, no. 8 (2022): 085116
4. "Coexistence of vitreous and crystalline phases of  $H_2O$  at ambient temperature" Shargh, Ali K., Aude Picard, Rostislav Hrubciak, Dongzhou Zhang, Russell J. Hemley, Shanti Deemyad\*, Niaz Abdolrahim\*, and Saveez Saffarian\*. **Proceedings of the National Academy of Sciences.**; 12, 119, no. 27 (2022): e2117281119.
5. "Pressure-induced ferroelectric-like transition creates a polar metal in defect antiperovskites  $Hg_3Te_2X_2$  ( $X=Cl, Br$ )" Weizhao Cai, Jiangang He, Hao Li, Rong Zhang, Dongzhou Zhang, Duck Young Chung, Tushar Bhowmick, Christopher Wolverton, Mercuri G. Kanatzidis & Shanti Deemyad S\*. **Nature Communications.**; 12, 1509 (2021)..(doi: 10.1038/s41467-021-21836-7)
6. "Pressure-Induced Superconductivity in the Wide Band Gap Semiconductor  $Cu_2Br_2Se_6$  with A Robust Framework" Cai W, Lin W, Yan Y, Hilleke KP, Coles J, Bao J-K, Xu J, Zhang D, Chung DY, Kanatzidis MG\*, Zurek E\*, Deemyad S\*. **Chemistry of Materials.** (2020) ;32(14):6237-46. (doi: 10.1021/acs.chemmater.0c02151)
7. "Fermi surface studies of the low-temperature structure of sodium" S. F. Elatresh, Mohammad Tomal

- Hossain, Tushar Bhowmick, A. D. Grockowiak, Weizhao Cai, W. A. Coniglio, Stanley W. Tozer, N. W. Ashcroft, S. A. Bonev\*, Shanti Deemyad\*, and Roald Hoffmann\*. **Phys. Rev.B** (2020) B. 2020;101(22):220103.
8. "Parallel background subtraction in diamond anvil cells for high pressure X-ray data analysis" Weizhao Cai, Mohammad Tomal Hossain, Jared Coles, Jordan Lybarger, Joseph Blanton, Eran Sterer and Shanti Deemyad, **High Pressure Research**, (2019) 1-12
  9. "Perovskites with a Twist: Strong In1+ Off-centering in the Mixed-Valent CsInX3 (X= Cl, Br)". McCall KM, Friedrich D, Chica DG, Cai W, Stoumpos CC, Alexander GC, Deemyad S, Wessels BW, Kanatzidis MG. **Chemistry of Materials**. 2019.
  10. "Pressure-induced Superconductivity and Flattened Se6 Rings in the Wide Bandgap Semiconductor Cu2I2Se6." Cai, W., Lin, W., Li, L.H., Malliakas, C. D., Zhang, R., Groesbeck, M., Bao, J. K., Zhang, D., Sterer, E., Kanatzidis, M. G., and S. Deemyad, **Journal of the American Chemical Society**, 2019. Just Accepted Manuscript. DOI: 10.1021/jacs.9b06794
  11. "Probing quantum effects in lithium." Deemyad, S.\*; Zhang, R., **Physica C: Superconductivity and its Applications** 2018., DOI: 10.1016/j.physc.2018.02.007
  12. "Effects of Non-Hydrostatic Stress on Structural and Optoelectronic Properties of Methylammonium Lead Bromide Perovskite." Zhang, Rong; Cai, Weizhao; Bi, Tiange; Zarifi, Niloofar; Terpstra, Tyson; Zhang, Chuang; Vardeny, Zeev Valy; Zurek\*, Eva; Deemyad, Shanti\*, **Journal of Physical Chemistry Letters**, 2017, 2017. 8(15): p. 3457-3465.
  13. "Quantum and isotope effects in lithium metal" Graeme J. Ackland, Mihindra Dunuwille, Miguel Martinez-Canales, Ingo Loa, Rong Zhang, Stanislav Sinogeikin, Weizhao Cai and Shanti Deemyad\* **Research Article, Science**, 356(6344): p. 1254-1259 ( 2017). DOI: 10.1126/science.aal4886
  14. "The low temperature structure of lithium: evidence from Fermi surface analysis" Sabri F. Elatresh, Weizhao Cai, N. W. Ashcroft, Roald Hoffmann\*, Shanti Deemyad\*, and Stanimir A. Bonev\*, **Proceedings of the National Academy of Sciences** 114, 5389(2017)DOI: 10.1073/pnas.1701994114
  15. "Deuterium Isotope Effects in Polymerization of Benzene under Pressure." Weizhao Cai, Mihindra Dunuwille, Jiangang He, Jasmine K. Bishop, Mary K. MacLean, Jamie J. Molaison, Antonio M. dos Santos, Stanislav Sinogeikin, and Shanti Deemyad\*, **Journal of Physical Chemistry Letters**, 2017, DOI: 10.1021/acs.jpcllett.7b00536
  16. "Piezochromism, Structural and Electronic Properties of Benz[a]anthracene under Pressure" Weizhao Cai, Rong Zhang, Yansun Yao,\*and Shanti Deemyad\*, **Physical Chemistry Chemical Physics**, 2017, **19**, 6216 – 6223, DOI: 10.1039/C6CP08171A
  17. "Note: Simple and portable setup for loading high purity liquids in diamond anvil cell. " Olejnik, E. and S. Deemyad, 2016. **Rev. Sci. Instrum.**, 2016. **87**(3).
  18. "Boundaries for martensitic transition of 7Li under pressure". Schaeffer, A.M., W. Cai, E. Olejnik, J.J. Molaison, S. Sinogeikin, A.M. dos Santos, and S. Deemyad, **Nature Communications**, 2015. **6**
  19. "High-pressure superconducting phase diagram of 6Li: Isotope effects in dense lithium". Schaeffer, A.M., S.R. Temple, J.K. Bishop, and S. Deemyad, **Proceedings of the National Academy of Sciences**, 2015. **112**(1): p. 60-64 (Online 12-22-14.)
  20. "Twin sample chamber for simultaneous comparative transport measurements in a diamond anvil cell (DAC)", Anne Marie J. Schaeffer and Shanti Deemyad **Rev. Sci. Instrum.** **84**, 095108 (2013)
  21. "Superconductivity In BaLi4 under pressure" Schaeffer AM, DeLong M, Anderson ZW, Talmadge WB, Gurusuwamy S, Deemyad S., **Journal of Physics Condensed Matter**, 25 (2013) 375701.
  22. "High Pressure Melting of Lithium" Schaeffer AM, Talmadge, WB, Temple SR, Deemyad S., **Physical Review Letters** 109, 185702 (2012)
  23. "Strategy and enhanced temperature determination in a laser heated diamond anvil cell" Deemyad S. and Silvera IF, **Journal of Applied Physics** **105**, 093543 (2009)

24. "Melting line of hydrogen at high pressures" Deemyad S. and Silvera IF, **Physical Review Letters** 100, 155701 (2008)
25. "Pulsed laser heating and temperature determination in a diamond anvil cell" Deemyad S, Sterer E., Barthel C., Rekhi S., Tempere J. and Silvera IF. **Rev. Sci. Instrum.**, 76, 125104 (2005)
26. "The superconducting phase diagram of Li metal to 67 GPa" [Cover Story of PRL] Deemyad S. and Schilling JS, **Physical Review Letters** 91, 167001 (2003).
27. "Pathways to metallic hydrogen" Silvera I. F. and Deemyad S., **7TH CONFERENCE ON CRYOCRYSTALS AND QUANTUM CRYSTALS**, Wroclaw, Poland, (edited by M. Kazimierski) (2008)
28. "Temperature dependence of the emissivity of Pt in the IR" Deemyad S. and Silvera IF, **Rev. Sci. Instrum.**, 79, 086105 (2008)
29. "Studies on the weak itinerant ferromagnet SrRuO<sub>3</sub> under high pressure to 34 GPa" Hamlin JJ, Deemyad S, Schilling JS, Jacobsen MK, Kumar RS, Cornelius AL, Cao G and Neumeier JJ, **Physical Review B** 76, 014432 (2007)
30. "High-pressure study of structural phase transitions and superconductivity in La<sub>1.48</sub>Nd<sub>0.4</sub>Sr<sub>0.12</sub>CuO<sub>4</sub>" Crawford MK, Harlow RL, Deemyad S, Tissen V, Schilling JS, McMarron E, Tozer SW, Cox DE, Ichikawa N, Uchida S, and Huang Q. **Physical Review B** 71, 104513 (2005)
31. "Enhanced superconducting properties of bicrystalline YBa<sub>2</sub>Cu<sub>3</sub>O<sub>x</sub> and alkali metals under pressure" Tomita T, Deemyad S, Hamlin JJ, Schilling JS, Tissen VG, Veal BW, Chen L and Claus H. **Journal of Physics Condensed Matter** 17, S921 (2005)
32. "Dependence of the superconducting transition temperature of MgB<sub>2</sub> on pressure to 20 GPa" Deemyad S, Schilling JS, Jorgensen JD, Hinks DG. **Physica C: Superconductivity**. 2001;361(4):227-33.
33. "Dependence of the superconducting transition temperature of single and polycrystalline MgB<sub>2</sub> on hydrostatic pressure". Deemyad S, Tomita T, Hamlin JJ, Beckett BR, Schilling JS, Hinks DG, et al. **Physica C: Superconductivity**. 2003;385(1-2):105-16.

#### d. Awards and recognitions

1. Myriad Award of research excellence (Myriad Genetics Inc. and U. of U. College of Science 2014)
2. NSF faculty early career award (2013)
3. APS research scholarship award (APS Shock Compression of Condensed Matter Conference, Nashville, TN- 2009)
4. Certificate of teaching excellence (Harvard University BOK center-2007)
5. Dissertation Fellowship (Washington University in St. Louis-2004)
6. Jill Abrams Scholarship in Physics (Washington University in St. Louis-2003)

#### e. Synergistic activities

1. Scientific advisory board of the AIRAPT meeting, Scotland, 2023
2. International advisory committee of "The 29th International Conference on Low Temperature Physics", LT29, Osaka, Japan (2022)
3. Scientific committee of the 13<sup>th</sup> Materials and Mechanisms of Superconductivity (M2S) conference, Vancouver, Canada (2022)
4. Co-director of Ettore Majorana school of CRYSTALLOGRAPHY UNDER EXTREME CONDITIONS, Erice, Italy (2022)
5. Chair; Crystallography using large volume presses and diamond anvil cells in IUCr 2020, 22-28 August 2020, Prague, Czech republic

6. Elected Treasurer of the of International Association for the Advancement of High Pressure, AIRAPT (2019)
7. Elected as executive committee member of International Association for the Advancement of High Pressure, AIRAPT (2017)
8. Advisory committee of international conferences: LT29 (Aug 2019, Osaka, Japan), EHPRG (Sept. 2019, Spain), APS March meeting 2020
9. Invited Panelist on NSF Workshop on midscale instrumentation for quantum materials (Nov 2016)
10. Elected Chair of high Pressure GRC 2016.
11. Review panel of ANL, ORNL, NHMFL
12. Chair; Interactions in solids under stress micro symposia in IUCr 2017, 21-28 August 2017, Hyderabad, INDIA,
13. Co-organizing focused sessions in SMEC meeting 2013 (Structural and electronic phase transformations of materials under pressure that lead to unusual electronic, magnetic and optical properties with Dr. R. Hennig) and 2016 (Structure and electronic structures of ultra-light materials with Dr. E. Zurek)
14. Serving on several NSF and DOE proposal reviewing panels (2014 present)
15. Reviewing committee's of ORNL and ANL high pressure proposals (2016-p)
16. Science and Technology (AIRAPT) 2016 organizing several activities in the physics department REU program Summer of 2011.
17. Organizing the physics program of the Science day at university of Utah as Physics representative of College of science (2010).
18. Science at breakfast for non-scientists, Science Day **University of Utah**,
19. Annual Talk, ACCESS program girls and Undergraduate seminar series (2010-12).
20. Elected speaker of Science Night Live, Organized by University of Utah College of Science (Feb 2014)

#### f. Invited talks (Excluding interview talks)

1. "Quantum effects at extreme conditions" Keynote speaker, IUCr, Melbourne (2023)
2. "Quantum effects in materials at extreme conditions" BYU Colloquium (Oct 2022)
3. "Quantum ground states under pressure: Pressure-induced superconductivity in charge density wave material BaSbTe<sub>2.1</sub>SO<sub>9</sub>" 13<sup>th</sup> Materials and Mechanisms of Superconductivity (M2S) conference, Vancouver, Canada (2022)
4. "Topological and superconducting materials under extreme conditions" Ettore Majorana school of CRYSTALLOGRAPHY UNDER EXTREME CONDITIONS, Erice, Italy (2022)
5. "Quantum effects in light materials at extreme conditions" Advances in N-body Computations workshop, Oxford, UK, April 2022
6. "Physics of Light Dense Matter: Quantum and Classical Effects" International Conference on Recent Advances in High Pressure Science and Technology-IcReAcH-2022-VIRTUAL MODE, IGCAR, Kalpakkam, India, Feb 2022
7. "Physics of Light Dense Matter: Quantum and Classical Effects in Dense lithium" Condensed matter virtual seminar, UBC, Canada, Oct 2021
8. "Physics of Light Dense Matter: Quantum and Classical Effects" virtual condensed matter seminar, Iowa State University, Oct 2021
9. "Theoretical and experimental studies of the Fermi surface of Li and Na at ambient and high pressure" Condensed Matter Section Collaborative WIP Seminar, LLNL (Collaborative talk with S. Bonev) Aug 2021
10. "Superconductivity experiments: applications and limitations" Conference on Science at Extreme Conditions (CSEC-2021) (Virtual, Edinburgh, July 2021)
11. "Physics of Light Dense Matter: Quantum and Classical Effects" APS March meeting 2021 (Virtual presentation) March 2021
12. "Symmetry Breaking Transitions and Light Alkalis Under Pressure", CDAC webinar, Argonne National

Laboratory (Feb 2021)

13. "Physics of Light Dense Matter: Quantum and Classical Effects in Lithium", Virtual Colloquium, Boston College, Oct 2020)
14. "Physics of Light Dense Matter: Quantum and Classical Effects in Lithium", Virtual Seminar, EPL, Carnegie Institute, Sept 2020)
15. "Physics of Light Dense Matter: Quantum and Classical Effects", Seminar, NREL, Colorado, Dec 2019
16. "Quantum effect in lithium under extreme conditions", Colloquium, Department of Physics, ISU, ID, December 2019
17. "Quantum effect in lithium under extreme conditions", Seminar, Department of Engineering, UCSD, CA, November 2019
18. "Quantum effects in light elements at extreme conditions", Plenary talk, APS 4-Corners, Arizona, Oct 2019
19. "Crystallography and Fermiology of lithium under pressure", MSM19, Seoul, Korea, Aug 2019
20. "Crystal and electronic structure of lithium under pressure", CNPEM, Campinas, Brazil, July 2019
21. "Quantum effects in materials under pressure", Colloquium, BYU, Provo, Feb 2019
22. "Lithium under pressure", Annual meeting, American Physical Society, Boston, MA, March 2019
23. "Electronic and crystal structures of dense lithium", Condensed matter seminar, Purdue University, Indianapolis, IN, October, 2018.
24. "Metastable, Unstable and ground state structure of lithium isotopes", Condensed Matter Seminar, BYU, Provo, UT, November 2018.
25. "Metastability in phase transitions of lithium", ACS meeting, Boston, MA, August, 2018.
26. "Structural transition in light alkali metals", IUCr High pressure workshop (Plenary talk) , Honolulu, HI, August 2018.
27. "Metastable, Unstable and ground state structure of lithium isotopes" HPSP18&WHS2, Barcelona, Spain., July 2018
28. "Present / Future: Innovative Approaches — Keynote Session: Recent Advances in High-Pressure Research." GRC, High Pressure, Biddeford, NH, June 2017
29. "Ground state and isotope effects in lithium metal", Advanced photon source, November 2017
30. "Lithium under pressure" APS 4CS, Fort Collins, CO, October 2017
31. "Unstable, Metastable and Ground state structures of lithium metal", Plenary talk, MSM-17 meeting, September 2017
32. "Lithium under pressure" AIRAPT meeting, Beijing, China, August 2017
33. "Many faces of the simplest metal "LITHIUM" under pressure, Physics Colloquium, Weber State U, October 2016
34. "Many faces of the simplest metal "LITHIUM" under pressure, Physics Colloquium, UC Davis, September 2016
35. "Many faces of the simplest metal "LITHIUM" under pressure, HPSP17 & WHS conference, Tokyo, Japan, August 2016
36. "Lithium under high pressure" Harvard University, Special seminar, July 2016.
37. "Structures of lithium isotopes" IUCr High pressure workshop" , Sao Paulo, Brazil, September 2015
38. "Lithium under high pressure" Emerging Frontiers in Experimental Condensed Matter Physics of Strongly Correlated Electron Systems , National Science Foundation, VA, May 2015
39. "Lithium under high pressure" Materials Science and Engineering graduate seminar , University of Utah, Feb 2015
40. "Science and technology at extreme conditions; Past, Present and Future" GRS, High pressure research at, closing talk, June 2014
41. "Isotope effects in superconductivity of lithium" ISU, Colloquium, April 2014
42. "Isotope effects in superconductivity of lithium" NCAS4, Sharif University of Technology, Feb 2014
43. "Methods for detection of high pressure melting of metals" CECAM workshop, University Pierre et Marie Curie, Paris, Dec. 2012

44. "High pressure melting of lithium" Condensed matter seminar series, Washington University in St. Louis, Nov. 2010.
45. " Non-Trivial Physics of Simple Elements at High Densities: En-Route to Metallic Hydrogen and Insulating Lithium" Physics Colloquium, Stanford University, April 2012
46. "Simple elements at extreme conditions" Condensed matter seminar series, UC Davis, Oct. 2010.
47. "Simple elements at extreme conditions" Condensed matter seminar series, University Pierre et Marie Curie, Paris, Nov. 2009
48. " Melting line of molecular hydrogen and pulsed laser heating in diamond anvil cell" APS Shock Compression of Condensed Matter 2009 Conference, Nashville, TN, June 2009
49. "Melting line of molecular hydrogen" SMEC Meeting , Miami, March 2009
50. "Melting line of molecular hydrogen" Gordon Research Conference in High Pressure, University of New England, June 2008.
51. "Melting line of hydrogen: En-route to metallic hydrogen" Condensed Matter Seminars, University of Dalhousie, Halifax April 2008
52. "Pulsed laser heating and temperature determination in diamond anvil cell" SMEC Meeting , Miami, March 2005
53. "Superconductivity in the alkali metals" Gordon Research Conference in High Pressure, Kimble Union College, June 2004

#### **g. Departmental and university of Utah committees**

1. Academic senate president-elect (May 2022-p)
2. Academic senate executive committee (2019-2022)
3. Academic senate (2019-2022)
4. Policy board (2013-14)
5. Postdoctoral affair committee (2013)
6. Admission committee (2010-12, 2020-p), (Chair 2011-12)
7. Honors college advisor for Physics and Astronomy (2021-p)
8. Condensed matter seminar (Chair 2012-13)
9. Colloquium committee (2021)
10. Recruitment committee (Chair 2021)
11. College of Science Council (2011 and 2013) (Organizing science Day at U Nov. 2011)
12. EDI Committee (2013, 2020-p)
13. Awards Committee (2013)
14. CME search committee (2012), (Chair 2020)
15. High energy search committee (2011)
16. College of Science INTELLECTUAL EXPLORATION– PHYSICAL, LIFE & APPLIEDSCIENCES (2014)
17. Museum of Fine Arts advisory committee (2012)
18. U. of U. Fine Arts Committee (2012-2014)

#### **h. Funding**

1. NSF, EAGER, PI (\$300K, 2021-23)
2. DOE, FES, Co-PI (Deemyad Group budget: Award \$460K, 2019-23)
3. Utah state seed grant PI (\$20K, 2020)
4. NSF DMR GRC conference organization ( \$8K, 2016)
5. ACS Petroleum award (\$ 110K, 2014)
6. NSF DMR GRC conference organization (\$7.5K, 2014)
7. Myriad award ( \$20K, 2014)

8. NSF early career award (\$625K, 2013)
9. Utah state seed grant (\$28K, 2013)
10. NASA ESPCOR collaboration award (\$2.5K, 2012)

#### i. Students and postdocs supervised in University of Utah

Audrey Glende (undergraduate student, SURP, ACCESS program 2021-p), Mason Burden (undergraduate student, SURP 2022-p), Adam Dockery (undergraduate student REU summer 2022), Julia St. Andre (undergraduate student, ACCESS, UROP, 2022), Xuran Xi (undergraduate student, 2022-p), Dr. Tushar Bhowmick (PhD candidate 2018-22 now Staff scientist INTEL), Dr. Weizhao Cai (Postdoctoral Fellow 2014-19)[Now tenure track faculty at University of Science and Technology, China], Mahé Lezoualc'h, (undergraduate thesis student from University of Toulouse, France 2018, currently PhD candidate at U. Toulouse), Dr. Rong Zhang PhD Student (2014-18) {Now postdoctoral fellow at UCSD}, Dr. Mihindra Dunuwille (Postdoctoral fellow 2015-16] Now faculty at Texas international University), Tessa McNamee (undergraduate student, 2022, Now pursuing PhD at UW), Ben Powel (undergraduate student, 2021),, Mohammad Tomal Hossain Masters Degree (2018-19 Now at Delaware University pursuing PhD), Dr. Ella Olejnik (Postdoctoral Fellow)[2014-16][Postdoctoral fellow Georgia Tech], Pooya Elahi Master's Thesis Graduate student from LMU Germany (2016-17), Alissa Mann, Undergraduate student (2014-P), Joseph Blanton, Honor thesis undergraduate student (2014-18)[Now PhD candidate at University of Chicago), Jared Coles, Undergraduate student (2017-20 Honors thesis, Now PhD candidate in university of Illinois), Jordan Lybarger undergraduate Student(2017-2018), Robbie Robinson, undergraduate student [2018, PhD candidate at Northern Texas University], Sam Amidon, undergraduate student [2018], Jasmine Hinton, Undergraduate student (2013-2015)[PhD student in UNLV], Mary Catherine MacLean REU student (2015)[PhD student Northwestern U], Anne Marie Schaeffer, Master's student (2011-15)/REU student (2010-11), Trevor Taylor, Undergraduate student (2014-16) [PhD student Utah State U], Florence Doval, REU student (2014) [PhD student U. of Utah], Michael Doleac, Master research student (2014)[Science teacher ParkCity UT], Barun, Graduate Student (2011-12). William Talmadge, Undergraduate Student (2010-14) [Master's degree U. of Utah 2018, Now software engineer at Apple], Scott Temple, Undergraduate Student (2010-13) , Zachary Anderson, Undergraduate Student, Department of Physics and Astronomy, Cornell University, Summer 2011 and 2012,[PhD student U of Minnesota], Chris Dances, Undergraduate Student in Mechanical Engineering, Summer 2010, Evangelia Papadopoulous Undergraduate Student (2012)[PhD student U. Penn], Drew Ellingson, Undergraduate Student (2012), Evelynn Walton, Undergraduate Student, (Spring 2012), Jamon Nielson, Graduate Student ( 2010-11). Cecilia Firpo, High school student (Summer 2016), Zhouheng, Xu Undergraduate student (2012-13), Jiang Jue Undergraduate exchange thesis student (2012-13)[PhD student Penn State], Zhen Jiang (2013-14), Josephine Hovhannessian REU student (2014), . Aaron Friedman, High School student (2014-2015)[Undergraduate student Colombia U]

#### j. Courses taught

- a. Calculus based general physics part I and II (Mechanics and Electromagnetism and optics).
- b. algebra based physics part I,
- c. Modern Physics.
- d. Condensed matter physics part I and II for advanced undergraduates and graduate students,
- e. Graduate laboratory,
- f. Women in Physics

