

# Bhubanjyoti Bhattacharya

Curriculum Vitae, 2020

## Field of research: Particle Physics (phenomenology)

Assistant Professor of Physics  
Department of Natural Sciences  
Lawrence Technological University

21000 W. Ten Mile Road  
Southfield, MI  
[bbhattach@ltu.edu](mailto:bbhattach@ltu.edu)

Adjunct Assistant Professor  
Department of Physics and Astronomy  
Wayne State University

666 W. Hancock St.  
Detroit, MI  
[bhujyo@wayne.edu](mailto:bhujyo@wayne.edu)

Citizenship : United States of America

<https://bhujyo.github.io/>  
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## Employment

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| 2017 –      | Assistant Professor of Physics, Lawrence Technological University  |
| 2017 –      | Adjunct Assistant Professor of Physics, Wayne State University   |
| 2016 – 2017 | Postdoctoral Fellow, Wayne State University  |
| 2012 – 2016 | Postdoctoral Fellow, Université de Montréal<br><i>Institute of Particle Physics (IPP) Theory Postdoctoral Fellowship, 2013 – 2015.</i><br><i>Value: CA\$20K/yr</i> |

## Education

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| 2006 – 2011 | Ph.D. Physics, University of Chicago, ( <i>Advisor:</i> Jonathan L. Rosner)<br><i>Dissertation Title:</i> Relative Phases in Dalitz Plots for $D^0 \rightarrow 3$ Pseudoscalars<br><i>Subrahmanyan Chandrasekhar Fellowship, 2006–2008</i> |
| 2004 – 2006 | M.Sc. Physics, Indian Institute of Technology Kanpur<br>“ <i>General Proficiency Medal</i> ” for highest GPA in graduating class of 2006<br><i>Best Performance Awards, 2005 &amp; 2006</i>  |
| 2001 – 2004 | B.Sc. Physics Honours, Presidency College, Calcutta University<br><i>Jagadis Bose National Science Talent Search Scholarship (JBNSTS), 2001–2006</i><br><i>Best Performance Awards, Presidency College, 2002 &amp; 2003</i>                |

## Grants

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*Internal awards secured: \$10k    External awards secured: \$152.4k*

- “[RUI: Discovering New Sources of CP Violation in Flavor Phenomenology](#),” *Principal Investigator*, National Science Foundation, \$45k for 2020–2021 (\$135k for 2020–2023)
- “Transforming the intro-physics lab experience for the LTU engineering and science majors,” *Principal Investigator*, Kern Entrepreneurship Educational Network (KEEN), \$17.4k for 2020–2021; *with co-PIs: C. Zhou, G. Moschelli, V. Tobos (LTU Physics)*
- “[Bringing Computational Essays to the Intro Physics Classroom](#),” CRE Student Researcher Award\*, Lawrence Technological University, \$2.25K for 2019–2020
- CRE Faculty Development Award\*, Lawrence Technological University, \$3K for 2019–2020
- “Search for New Physics through Lepton-Flavor Violation,” *Principal Investigator*, Lawrence Technological University Seed Grant, \$4.75K for the academic year 2018–2019

\*Funds awarded from Howard Hughes Medical Institute (HHMI) “2017 Inclusive Excellence Grant” (Senior Personnel/Participating Faculty)

## Publications (refereed journals)

\*=corresponding author

[Inspirehep link](#)

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- [34] B. Bhattacharya\*, A. Datta, S. Kamali, and D. London, “A measurable angular distribution for  $\bar{B} \rightarrow D^* \tau^- \bar{\nu}_\tau$ ,” *JHEP* 07 (2020) 193, [[arXiv:2003.03032\[hep-ph\]](#)]
- [33] B. Bhattacharya\*, A. Datta, S. Kamali, and D. London, “CP Violation in  $\bar{B}^0 \rightarrow D^{*+} \mu^- \bar{\nu}_\mu$ ,” *JHEP* 05 (2019) 191, [[arXiv:1903.02567\[hep-ph\]](#)]
- [32] E. Bertholet, E. Ben-Haim, B. Bhattacharya, M. Charles, and D. London, “Extraction of the CKM phase  $\gamma$  using charmless 3-body decays of B mesons,” *Phys. Rev. D* **99**, 114011 (2019), [[arXiv:1812.06194\[hep-ph\]](#)]
- [31] B. Bhattacharya, C. M. Grant, and A. A. Petrov, “Invisible Widths of Heavy Mesons,” *Phys. Rev. D* **99**, 093010 (2019), [[arXiv:1809.04606\[hep-ph\]](#)]
- [30] B. Bhattacharya, R. Morgan, J. Osborne, and A. A. Petrov, “Studies of Lepton Flavor Violation at the LHC,” *Phys. Lett. B*, 785 (2018) 165 [[arXiv:1802.06082\[hep-ph\]](#)]
- [29] B. Bhattacharya\* and A. A. Petrov\*, “Hadronic decays of  $B_c$  mesons with flavor  $SU(3)_F$  symmetry,” *Phys. Lett. B*, 774 (2017) 430, [[arXiv:1708.07504\[hep-ph\]](#)]
- [28] A. K. Alok, B. Bhattacharya, A. Datta, D. Kumar, J. Kumar and D. London, “New Physics in  $b \rightarrow s \mu^+ \mu^-$  after the Measurement of  $R_{K^*}$ ,” *Phys. Rev. D* **96**, 095009 (2017), [[arXiv:1704.07397\[hep-ph\]](#)]
- [27] A. K. Alok, B. Bhattacharya\*, D. Kumar, J. Kumar, D. London and S. U. Sankar, “New Physics in  $b \rightarrow s \mu^+ \mu^-$ : Distinguishing Models through CP-Violating Effects,” *Phys. Rev. D* **96**, 015034 (2017), [[arXiv:1703.09247\[hep-ph\]](#)]
- [26] B. Bhattacharya\*, A. Datta, J. P. Guévin, D. London, and R. Watanabe, “Simultaneous Explanation of the  $R_K$  and  $R_{D^{(*)}}$  Puzzles: a Model Analysis,” *JHEP* 01 (2017) 015, [[arXiv:1609.09078\[hep-ph\]](#)]
- [25] B. Bhattacharya\*, A. Datta, and D. London, “Is there really a  $W \rightarrow \tau \nu$  puzzle?,” *Phys. Rev. D* **93**, 093008 (2016), [[arXiv:1603.03779\[hep-ph\]](#)]
- [24] B. Bhattacharya, G. Paz, and A. J. Tropiano, “Model-independent determination of the axial-mass parameter in quasielastic antineutrino-nucleon scattering,” *Phys. Rev. D* **92**, 113011 (2015), [[arXiv:1510.05652\[hep-ph\]](#)]
- [23] P. Saha, K. Kiers, B. Bhattacharya, D. London, A. Szykman, and J. Melendez, “Measuring CP-Violating Observables in Rare Top Decays at the LHC,” *Phys. Rev. D* **93**, 054044 (2016), [[arXiv:1510.00204\[hep-ph\]](#)]
- [22] B. Bhattacharya, J. M. Cline, A. Datta, G. Dupuis, and D. London, “Quark-flavored scalar dark matter,” *Phys. Rev. D* **92**, 115012 (2015), [[arXiv:1509.04271\[hep-ph\]](#)]
- [21] B. Bhattacharya and D. London, “Using U spin to extract  $\gamma$  from charmless  $B \rightarrow PPP$  decays,” *JHEP* 04 (2015) 154, [[arXiv:1503.00737\[hep-ph\]](#)]
- [20] B. Bhattacharya\*, A. Datta, D. London, and S. Shivashankara, “Simultaneous Explanation of the  $R_K$  and  $R(D^{(*)})$  Puzzles,” *Phys. Lett. B*, 742 (2015) 370, [[arXiv:1412.7164\[hep-ph\]](#)]
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- [19] B. Bhattacharya\*, A. Datta and D. London, “*Probing New Physics in Higgs Couplings to Fermions using an Angular Analysis*,” *Phys. Lett. B*, **736** (2014) 421, [[arXiv:1407.0695\[hep-ph\]](#)]
- [18] B. Bhattacharya, M. Gronau, M. Imbeault, D. London and J. L. Rosner, “*Charmless  $B \rightarrow PPP$  Decays: the Fully-Symmetric Final State*,” *Phys. Rev. D* **89**, 074043 (2014), [[arXiv:1402.2909\[hep-ph\]](#)]
- [17] B. Bhattacharya, M. Imbeault, and D. London, “*Direct measurement of  $\gamma$  using  $B \rightarrow K\pi\pi$  and  $B \rightarrow KK\bar{K}$  decays*,” *Phys. Lett. B*, **728** (2014) 206, [[arXiv:1303.0846\[hep-ph\]](#)]
- [16] B. Bhattacharya, M. Gronau, and J. L. Rosner, “*CP asymmetries in three-body  $B^\pm$  decays to charged pions and kaons*,” *Phys. Lett. B*, **726** (2013) 337, [[arXiv:1306.2625\[hep-ph\]](#)]
- [15] B. Bhattacharya, A. Datta, M. Duraisamy, and D. London, “*Searching for New Physics with  $\bar{b} \rightarrow \bar{s} B_s \rightarrow V_1 V_2$  Penguin Decays*,” *Phys. Rev. D* **88**, 016007 (2013), [[arXiv:1306.1911\[hep-ph\]](#)]
- [14] B. Bhattacharya, A. Datta, and D. London, “*Reducing Penguin Pollution*,” *Int. J. Mod. Phys. A*, **28**, 1350063 (2013), [[arXiv:1209.1413\[hep-ph\]](#)]
- [13] B. Bhattacharya, D. London, M. Gronau, and J. L. Rosner, “*Shift in weak phase  $\gamma$  due to CP asymmetries in  $D$  decays to two pseudoscalar mesons*,” *Phys. Rev. D* **87**, 074002 (2013), [[arXiv:1301.5631\[hep-ph\]](#)]
- [12] B. Bhattacharya and J. L. Rosner, “*Flavor  $SU(3)$  tests from  $D^0 \rightarrow K^0 K^- \pi^+$  and  $D^0 \rightarrow \bar{K}^0 K^+ \pi^-$  Dalitz plots*,” *Phys. Lett. B*, **714** (2012) 276, [[arXiv:1203.6014\[hep-ph\]](#)] (overlap with “*Relative Phases in  $D^0 \rightarrow K^0 K^- \pi^+$  and  $D^0 \rightarrow \bar{K}^0 K^+ \pi^-$  Dalitz Plots*,” [[arXiv:1104.4962\[hep-ph\]](#)])
- [11] B. Bhattacharya, A. Datta, M. Imbeault, and D. London, “*Measuring  $\beta_s$  with  $B_s \rightarrow K^{0(*)} \bar{K}^{0(*)}$  – a Reappraisal*,” *Phys. Lett. B*, **717** (2012) 403, [[arXiv:1203.3435\[hep-ph\]](#)]
- [10] B. Bhattacharya, M. Gronau, and J. L. Rosner, “*CP asymmetries in singly-Cabibbo-suppressed  $D$  decays to two pseudoscalar mesons*,” *Phys. Rev. D* **85**, 054014 (2012), [[arXiv:1201.2351\[hep-ph\]](#)]
- [9] B. Bhattacharya, A. M. Thalapillil, and C. E. M. Wagner, “*Implications of sterile neutrinos for medium/long-baseline neutrino experiments and the determination of  $\theta_{13}$* ,” *Phys. Rev. D* **85**, 073004 (2012), [[arXiv:1111.4225\[hep-ph\]](#)]
- [8] B. Bhattacharya, Richard. J. Hill, and Gil Paz, “*Model independent determination of the axial mass parameter in quasielastic neutrino-nucleon scattering*,” *Phys. Rev. D* **84**, 073006 (2011), [[arXiv:1108.0423\[hep-ph\]](#)]
- [7] B. Bhattacharya and J. L. Rosner, “*Cross ratios between Dalitz plot amplitudes in three-body  $D^0$  decays*,” *Phys. Rev. D* **82**, 114032 (2010), [[arXiv:1010.1770\[hep-ph\]](#)]
- [6] B. Bhattacharya and J. L. Rosner, “*Relative phases in Dalitz plot amplitudes for  $D^0 \rightarrow K_S \pi^+ \pi^-$  and  $D^0 \rightarrow \pi^0 K^+ K^-$* ,” *Phys. Rev. D* **82**, 074025 (2010), [[arXiv:1008.4083\[hep-ph\]](#)]
- [5] B. Bhattacharya and J. L. Rosner, “*Effect of  $\eta$ - $\eta'$  mixing on  $D \rightarrow PV$  decays*,” *Phys. Rev. D* **82**, 037502 (2010), [[arXiv:1005.2159\[hep-ph\]](#)]

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- [4] B. Bhattacharya, C. W. Chiang, and J. L. Rosner, “*Dalitz Plot Structure in  $D^0 \rightarrow \pi^+\pi^-\pi^0$ ,*” *Phys. Rev. D* **81**, 096008 (2010), [[arXiv:1004.3225\[hep-ph\]](#)]
- [3] B. Bhattacharya and J. L. Rosner, “*Charmed meson decays to two pseudoscalars,*” *Phys. Rev. D* **81**, 014026 (2010), [[arXiv:0911.2812\[hep-ph\]](#)]
- [2] B. Bhattacharya and J. L. Rosner, “*Decays of Charmed Mesons to PV Final States,*” *Phys. Rev. D* **79**, 034016 (2009); **81**, 099903(E) (2010), [[arXiv:0812.3167\[hep-ph\]](#)]
- [1] B. Bhattacharya and J. L. Rosner, “*Flavor symmetry and decays of charmed mesons to pairs of light pseudoscalars,*” *Phys. Rev. D* **77**, 114020 (2008), [[arXiv:0803.2385\[hep-ph\]](#)]

## Conference proceedings

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- [1] B. Bhattacharya and D. London, “*Extracting  $\gamma$  from three-body  $B$ -meson decays,*” Proceedings of CKM 2018, the 10th Workshop on the CKM Unitarity Triangle, University of Heidelberg, Germany, 17–21 September, 2018, doi: 10.5281/zenodo.2565849, [[arXiv:1811.10671\[hep-ph\]](#)]
- [2] B. Bhattacharya and D. London, “*Testing the SM with 3-body  $B$  Decays,*” in J. H. Alvarenga Nogueira *et al.*, “*Summary of the 2015 LHCb workshop on multi-body decays of D and B mesons,*” [[arXiv:1605.03889\[hep-ex\]](#)]
- [3] B. Bhattacharya, D. London, and M. Imbeault (speaker), “*Measurement of  $\gamma$  from three-body B decays,*” in 2013 European Physical Society Conference on High Energy Physics - EPS-HEP 2013, July 18–24 2013, Stockholm, Sweden, [[arXiv:1310.1873\[hep-ph\]](#)]
- [4] B. Bhattacharya, D. London (speaker), and M. Imbeault, “*Measurement of  $\gamma$  using  $B \rightarrow K\pi\pi$  and  $B \rightarrow KK\bar{K}$  decays,*” in the Eleventh International Conference on Flavor Physics and CP Violation - FPCP2013, May 19–24 2014, Buzios, Rio de Janeiro, Brazil, [[arXiv:1306.5574\[hep-ph\]](#)]
- [5] B. Bhattacharya, “*Direct CPV in Nonleptonic Charm Decays,*” Proceedings of CKM 2012, the 7th International Workshop on the CKM Unitarity Triangle, University of Cincinnati, USA, 28 September–2 October, 2012, [[arXiv:1302.3198\[hep-ph\]](#)]
- [6] B. Bhattacharya, M. Imbeault, and D. London, “*Extracting  $\gamma$  from three-body B decays,*” Proceedings of CKM 2012, the 7th International Workshop on the CKM Unitarity Triangle, University of Cincinnati, USA, 28 September–2 October, 2012, [[arXiv:1212.1167\[hep-ph\]](#)]
- [7] B. Bhattacharya, M. Gronau, and J. L. Rosner, “*Nonleptonic charm decays and CP Violation,*” presented at Charm 2012, The 5th International Workshop on Charm Physics 14–17 May 2012, Honolulu, Hawai’i, [[arXiv:1207.6390\[hep-ph\]](#)]
- [8] B. Bhattacharya, M. Gronau, and J. L. Rosner, “*Direct CP Violation in D Decays in view of LHCb and CDF Results,*” in the Tenth International Conference on Flavor Physics and CP Violation - FPCP2012, May 21–25 2012, Hefei, China, [[arXiv:1207.0761\[hep-ph\]](#)]
- [9] B. Bhattacharya and J. L. Rosner, “*Flavor Symmetry and Charm Decays,*” in Proceedings of International Workshop on Charm Physics (Charm 2007), Ithaca, New York, 5–8 Aug 2007, p. 24 [[arXiv:0710.0336\[hep-ph\]](#)]

## Invited Research Talks

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- “**Measurable Angular Distributions in  $B \rightarrow D^*\mu\nu$  &  $B \rightarrow D^*\tau\nu$ ,**” plenary talk presented at the BaBar collaboration meeting via remote session, June 03, 2020
  - “**Studying CP Violation in Angular Distributions of Semi-Leptonic  $B$  Decays,**”
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parallel session talk at Brookhaven Forum 2019, September 25–27, 2019, Brookhaven National Lab, Upton, NY

- **“CP Violation in the Precision Era,”** invited colloquium, Physics Department, University of Mississippi, Oxford, September 2, 2019
- **“CP Violating New Physics in light of Flavor Anomalies,”** invited plenary talk at Anomalies 2019, a Indo-US Workshop , July 18–20, 2019, Indian Institute of Technology, Hyderabad, India
- **“CP Violation at the Intensity Frontier,”** Faculty Seed Grant research status talk at the 7th Annual Research Day 2019, Lawrence Technological University, Southfield, Apr 5, 2019
- **“Determination of  $\gamma$  using flavor SU(3): Making a case for three-body decays,”** invited talk at workshop on Future Challenges in Non-Leptonic  $B$  Decays, January 14–18, 2019, Mainz Institute of Theoretical Physics, Germany
- **“Extracting  $\gamma$  from three-body  $B$ -meson decays,”** invited parallel talk, CKM 2018, September 17–21, 2018, Universität Heidelberg, Germany, [[arXiv:1811.10671](https://arxiv.org/abs/1811.10671) [hep-ph]]
- **“Can flavor phenomenology provide a window to new physics?,”** invited colloquium, Physics Department, Presidency University, Kolkata (India), July 24, 2018
- **“Anomalies in  $B$ -meson decays and Lepton Flavor Violation,”** invited lecture at Post Flavor Physics and CP Violation (FPCP) 2018 Workshop, Indian Institute of Technology and University of Hyderabad, Hyderabad (India), July 19, 2018
- **“Recent developments in Lepton Flavor,”** research status talk at the 6th Annual Research Day 2018, Lawrence Technological University, Southfield, Apr 6, 2018
- **“Toward explaining  $B$  decay anomalies,”** invited talk at New Physics Interpretations at the LHC 2 Workshop, Apr 5–7, 2017, Argonne National Laboratory, Chicago
- **“Particle Physics in the LHC Era,”** invited presentation at Lawrence Technological University, Southfield, Feb 28, 2017
- **“Multibody hadronic decays,”** invited talk at workshop on Implications of LHCb measurements and future prospects, Nov 3–5, 2015, CERN, Geneva
- **“Multibody decays & flavor symmetries,”** invited talk at LHCb workshop on multibody decays of  $B$  and  $D$  mesons, Jul 27–30, 2015, CBPF, Rio-de-Janeiro. Conference Proceeding : B. Bhattacharya and David London, in J. H. Alvarenga Nogueira *et al.*, [[arXiv:1605.03889](https://arxiv.org/abs/1605.03889) [hep-ex]]
- **“Status and prospects of  $B$  Physics,”** invited talk at CAP Congress 2015, Jun 15–19, 2015, University of Alberta, Edmonton
- **“New Physics with  $B_s \rightarrow VV$ ,”** invited talk at workshop on Implications of LHCb measurements and future prospects, Oct 14–16, 2013, CERN, Geneva
- **“CP Violation in  $D$  decays and the extraction of the CKM phase  $\gamma$ ,”** invited talk at CAP Congress 2013, May 27–31, 2013, Université de Montréal
- **“CP Violation,”** invited colloquium, Physics Department, University of Mississippi, Oxford, March 26, 2013
- **“Why is Direct CP Violation in  $D$  decays interesting?”** HEP Seminar at University of Michigan, Ann Arbor, October 5, 2012
- **“Why is Direct CP Violation in  $D$  decays interesting?”** HEP Journal Club Seminar at Michigan State University, East Lansing, October 4, 2012
- **“New approaches to extracting CKM Unitarity angles,”** Theory Group Seminar at

Wayne State University, Detroit, October 3, 2012

- **“Direct CPV in Nonleptonic Charm Decays,”** invited parallel talk, CKM 2012, September 28–October 2, 2012, University of Cincinnati. Conference Proceeding : [\[arXiv:1302.3198\[hep-ph\]\]](#)
- **“Extracting  $\gamma$  from three-body B decays,”** invited parallel talk, CKM 2012, September 28–October 2, 2012, University of Cincinnati. Conference Proceeding : B. Bhattacharya (speaker), Maxime Imbeault and David London, [\[arXiv:1212.1167\[hep-ph\]\]](#)
- **“Nonleptonic charm decays and CP Violation,”** HEP Lunch Talk at University of Chicago, July 2, 2012
- **“Nonleptonic charm decays and CP Violation,”** invited plenary talk, Charm 2012, University of Hawaii at Manoa, Honolulu. Conference Proceeding : B. Bhattacharya (speaker), M. Gronau and J. L. Rosner, [\[arXiv:1207.6390\[hep-ph\]\]](#)
- **“CP Asymmetries in two-body D decays,”** Montreal Joint High Energy Physics Seminars, Feb 22, 2012

## Professional Development Workshops/Summer schools attended

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| 2019 | Partnership for Integration of Computation into Undergraduate Physics (PICUP)<br>Faculty Development Workshop 2019, River Falls, Wisconsin |
| 2018 | New Physics and Astronomy Faculty Workshop,<br>American Association of Physics Teachers, Baltimore, Maryland                               |
| 2017 | Wolfram Summer School, WSS 2017<br>Bentley University, Waltham, Massachusetts  |
| 2009 | Theoretical Advanced Study Institute in Elementary Particle Physics, TASI<br>University of Colorado, Boulder, Colorado                     |
| 2008 | Prospects in Theoretical Physics, PiTP<br>Institute for Advanced Study, Princeton, New Jersey  |
| 2005 | Visiting Students Research Program, VSRP<br>Tata Institute of Fundamental Research, Mumbai, India  |

## Professional activities

- NSF Reviewer, 2019 & 2020
- Referee for *Phys. Rev. D*, *Phys. Rev. Lett.*, *Phys. Lett. B*, *JHEP*, *Euro. J. Phys. A*, *Europhys. Lett.*, *Adv. HEP*, *Chin. Phys. C*, *IJMPA*
- Session chair: Pheno 2012, CAP 2015, BF 2019

## Teaching experience

- *Teaching Undergraduate Courses (as the primary instructor):*
  - University Physics I (lecture and laboratory) for Science and Engineering majors, LTU (Classical Mechanics, Gravity, Fluids, and Thermodynamics), Fall 2017, Spring 2018, Fall 2018
  - University Physics II (lecture and laboratory) for Science and Engineering majors, LTU (Wave mechanics, Optics, Electrostatics, Circuits, and Magnetism), Spring 2019, Fall 2019, Spring 2020, Fall 2020
  - Quantum Mechanics (lecture) for Physics majors, LTU, Fall 2018
  - Analytical Mechanics (lecture) for Physics majors, LTU, Fall 2020

- *Teaching Undergraduate Courses (as a teaching assistant):*
  - General Physics for Undergraduates, UChicago  
(Classical Mechanics, Electromagnetism, Wave Mechanics) 2006, 2008, 2009, 2011
  - Experimental Physics for Undergraduates, UChicago, 2009
- *Grading Graduate Courses:*
  - Quantum Field Theory I, II, and III, UChicago, 2008 – 2009
  - Graduate Quantum Mechanics I and II, UChicago, 2010 – 2011
- *Developing material for Graduate Courses:*
  - Quantum Field Theory III, UChicago, 2009 : Complete solutions for problem sets
  - Advanced Electrodynamics II, UChicago, 2010 : Complete solutions and course material
  - Physics of the LHC, UChicago, 2010 : Computational environments based on *MADGRAPH*, *PGS*, *PYTHIA 6.4* and its interfacing with *ROOT*

## Supervision (research)

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### Undergraduate students

- [10] Andrea Houck, UG student, Lawrence Technological University.  
Course-based Research Experience (CRE) learning assistant (2020);  
Project on “Computational Essays in the Intro Physics Classroom,” *Currently a junior at LTU*
- [9] Kevin Stinnette, UG student, Lawrence Technological University.  
Course-based Research Experience (CRE) learning assistant (2020);  
Project on “Modeling electro-mechanical shock absorbers,” *Currently a junior at LTU*
- [8] Kylie LeBlanc, UG student, Lawrence Technological University.  
Research Experience for Undergraduates (REU) 2018 program at Wayne State University.  
Project on “Angular distribution in  $\bar{B} \rightarrow D^* \ell^- \bar{\nu}$ ” Advised Senior Project I at Lawrence Technological University, August - December, 2018  
*Currently ninth grade physics teacher at a charter school in Detroit*
- [7] Joseph Wieske, UG student, Wayne State University.  
Research Experience for Undergraduates (REU) 2017 program at Wayne State University  
(Supervisor: Professor G. Paz). Project on “Neutrino-nucleus scattering,” 2016 – 2017  
*Currently pursuing a Ph.D. in Physics at Michigan State University*
- [6] Francis Walz, UG student, Towson Univeristy.  
Research Experience for Undergraduates (REU) 2017 program at Wayne State University.  
Project on “New physics in  $b \rightarrow s \mu^+ \mu^-$  decays,” June – August, 2017  
*Currently pursuing a Ph.D. in Physics at Purdue University*
- [5] Jameson Tockstein, UG student, Wayne State University.  
Project on “Neutrino-nucleus scattering,” 2016 – 2017  
*Currently pursuing a Ph.D. in Nuclear Engineering at University of Florida*
- [4] Robert Morgan, UG student, Wayne State University.  
Project on “Lepton flavor violation at colliders,” 2016 – 2017, [Phys. Lett. B, 785 \(2018\) 165](#)  
*Currently pursuing a Ph.D. in Physics at University of Wisconsin, Madison*
- [3] Jean-Pascal Guévin, UG student, Université de Montréal.  
Summer project on “Relating  $R_K$  and  $R_{D^{(*)}}$  puzzles in various new physics models,” May –

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August, 2016, [JHEP 01 \(2017\) 015](#), [[arXiv:1609.09078\[hep-ph\]](#)] *Currently “Analyst” at an investment management firm in Québec, Canada*

- [2] Nicolas Boisvert Beaudry, Masters student, Université de Montréal.  
Summer project on “ $B \rightarrow K\pi$  puzzle,” May – August, 2016 *Currently “Investigator” for TMX Group (Financial Services), Montréal region, Canada*
- [1] Julien Gabouriad, UG student, Université de Montréal.  
Summer project titled “BSM physics with diquarks,” May – August, 2015  
*Currently pursuing a Ph.D. in Mathematics at Université de Montréal*

### Graduate students

- [2] Suneth Jayawardena, Graduate student, Wayne State University. Primary advisor: Nausheen Shah. Project on “Private Higgs models,” and other topics 2019 – current.
- [1] Cody M. Grant, Graduate student, Wayne State University. Primary advisor: Alexey A. Petrov. Project on “Invisible decays of mesons,” ([Phys. Rev. D 99, 093010 \(2019\)](#)) and other topics 2017 – current.

### Postdoctoral fellows

- [1] James Osborne, Postdoctoral fellow, Wayne State University.  
Principle postdoctoral advisors: Nausheen Shahe and Alexey Petrov (Wayne State). Project on “Lepton flavor violation at colliders,” 2017 – 2018, [Phys. Lett. B, 785 \(2018\) 165](#)  
Project on “Private Higgs models,” 2019 – current  
*Currently in a postdoctoral position at University of California, San Diego*