JASON N.E. HO

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Education

- **Doctorate of Philosophy Degree**—University of Saskatchewan
  November 2013 - present (In Progress) Saskatoon, Saskatchewan
  - Supervised by Dr. Tom Steele and Dr. Derek Harnett
- **Master of Science Degree**—University of Saskatchewan
  September 2013 - October 2015 Saskatoon, Saskatchewan
  - Supervised by Dr. Tom Steele and Dr. Derek Harnett
  - QCD Correlation Functions of Heavy-light Hybrid Mesons ($J^P = 1^-$)
- **Bachelor of Science Honors Degree**—University of the Fraser Valley
  September 2008-April 2013 Abbotsford, British Columbia
  - Physics Honors with a Minor in Chemistry

Relevant Work Experience

- **Teacher Assistant**—University of Saskatchewan
  September 2013 - present Saskatoon, Saskatchewan
  - September 2016 - December 2016: Refined tutorial curriculum and led tutorial for third-year introduction of quantum mechanics.
  - January 2016 - April 2016: Ran problem tutorial for first-year introduction to physics course. Supervised and marked first-year physics lab.
  - September 2015 - December 2015: Marked assignments and assisted in a tutorial for a third-year introduction to quantum mechanics. Prepared and taught a couple of undergraduate quantum mechanics lectures. Ran first-year physics problem tutorial.
  - January 2015 - April 2015: Ran problem tutorial for first-year introduction to physics course. Supervised and marked first-year physics lab.
  - September 2014 - December 2014: Helped develop tutorial curriculum for third-year introduction of quantum mechanics. Marked assignments and assisted in a tutorial for a third-year introduction to quantum mechanics. Prepared and taught an undergraduate Quantum Mechanics lecture.
  - January 2014 - April 2014: Assisted in supervising several undergraduate physics lab sections.
  - September 2013 - December 2013: Marked assignments for first-year undergraduate physics.
- **Lab Assistant**—UFV Physics Department
  June 2012 - December 2012 Abbotsford, British Columbia
  - Work-Study Program: Waves and Optics Lab Course Development
  - Testing and development of laboratory component of a 200-level Optics and Waves course.
- **Research Assistant**—UFV Physics Department
  January 2012 - August 2013 Abbotsford, British Columbia
  - NSERC funded research position.
  - QCD Laplace sum rule calculations of charmonium hybrid mesons.

- **Research Assistant**—UFV Chemistry Department
  January 2008 - August 2011 Abbotsford, British Columbia
  - NSERC funded research position.
  - Thermodynamic calculations of hydrocarbons at high temperatures and high pressures using molecular dynamic simulations.

Publications

- **Mass Calculations of Light Quarkonium, Exotic $J^{PC} = 0^{+-}$ Hybrid Mesons from Gaussian Sum-Rules)**—J. Ho, R. Berg, Wei Chen, D. Harnett, T. G. Steele
  - Submitted to PRD. arXiv:[hep-ph]/1806.02465
- **Ground State Mass Predictions of Heavy-Light Hybrids from QCD Sum-Rule Analysis (**$J^P = \{0^{+-}, 1^{+-}\}$**)**—J. Ho, D. Harnett, T.G. Steele
  - Nuclear and Particle Physics Proceedings, Vol. 294 - 296, 2018. https://doi.org/10.1016/j.nuclphysbps.2018.03.005
- **Mass Predictions of Open-Flavour Hybrid Mesons from QCD Sum Rules**—J. Ho, D. Harnett, T.G. Steele
  - Conference proceedings submitted to *Proceedings of Science*, arXiv:[hep-ph]/1611.02328
- **Remarks on Top-philic Z' Boson Interactions with Nucleons**—Frederick S. Sage, Jason N.E. Ho, T.G. Steele, Rainer Dick
  - arXiv:[hep-ph]/1611.03367
- **Masses of Open-Flavour Heavy-Light Hybrids from QCD Sum-Rules**—J. Ho, D. Harnett, T.G. Steele
  - submitted to *Journal of High Energy Physics*, arXiv:[hep-ph]/1609.06750
- **Exotic Hadron States**—Wei Chen, J. Ho, T.G. Steele, R.T. Kleiv, B. Bulthuis, D. Harnett, T. Richards, Shi-Lin Zhu
  - Conference proceedings for the XXX-th International Workshop on High Energy Physics, June 2015, doi 10.1142/9789814689304_0022
- **Exploring the spectrum of heavy quarkonium hybrids with QCD sum rules**—R.T. Kleiv, B. Bulthuis, D. Harnett, T. Richards, Wei Chen, J. Ho, T.G. Steele, Shi-Lin Zhuc
  - *Canadian Journal of Physics*, January 14, 2015, doi 10.1139/cjp-2014-0589
- **Mass spectrum of heavy quarkonium hybrids**—Wei Chen, R. T. Kleiv, T. G. Steele, B. Bulthuis, D. Harnett, J. Ho, T. Richards, Shi-Lin Zhu
  - *Journal of High Energy Physics*, September 4, 2013, doi 10.1007/JHEP09(2013)019
- **Molecular dynamics simulations of oil components at geological conditions**—Jason Ho, Sarah Reimer, and Noham Weinberg
  - *High Pressure Research*, Vol. 29, No, pp. 587-593, 2009

Presentations

- **Nonperturbative Aspects of Quantum Field Theory & Loewe's 65 Fest**—Jason Ho, Derek Harnett, Tom Steele
  December 2017 Santiago, Chile

  - Ground State Mass Predictions of Heavy-Light Hybrids from QCD Sum-Rule Analysis ($J^P = \{0^{+-}, 1^{+-}\}$)

- **QCD 17:** 20^{th} **High-Energy Physics International Conference in Quantum Chromodynamics**—Jason Ho, Derek Harnett, Tom Steele
  July 2017 Montpellier, France
  - Ground State Mass Predictions of Heavy-Light Hybrids from QCD Sum-Rule Analysis ($J^P = \{0^{+-}, 1^{+-}\}$

- **American Physical Society April Meeting**—Jason Ho, Derek Harnett, Tom Steele
  January 2017 Washington, DC
  - Masses of Open-Flavour Heavy-Light Hybrids from QCD Sum Rules

- **International Conference of High Energy Physics 2016**—Jason Ho, Derek Harnett, Tom Steele
  August 2016 Chicago, IL
  - Mass Predictions of Open-Flavour Hybrid Mesons from QCD Sum Rules (Poster)

- **Canadian Association of Physicists Congress**—Jason Ho, Derek Harnett, Tom Steele
  June 2015 Edmonton, Alberta
  - QCD Sum Rule Analysis of Heavy-light Hybrids for $J^P = 1^-$

- **University of Saskatchewan Graduate Research Conference Three Minute Thesis Competition**—Jason Ho
  March 2015 Saskatoon, Saskatchewan
  - Quarks and the Gluons that Bind Them: Strange Particles at our SmallestQuarks and the Gluons that Bind Them: Strange Particles at our Smallest Scale Scale

- **University of Saskatchewan PEGASUS Summer Student Seminars**—Jason Ho
  March 2015 Saskatoon, Saskatchewan
  - QCD Sum Rule Analysis of Open-charm Hybrids

- **18th Biennial Intl. Conference of the APS Topical Group on Shock Compression of Condensed Matter held in conjunction with the 24th Biennial Intl. Conference of the Intl. Association for the Advancement of High Pressure Science and Technology (AIRAPT)**—Jeffery Perkins, Jason Ho, Noham Weinberg
  July 2013 Seattle, Washington
  - Calculation of thermodynamic functions for hydrocarbons and their mixtures

- **American Physical Society April Meeting**—Timothy Richards, Jason Ho, Brendan Bulthuis, Derek Harnett, Robin Kleiv, Tom Steele
  April 2013 Denver, Colorado
  - Charmonium Hybrids from QCD Sum-Rules

- **14th Annual Meeting of the Northwest Section of the American Physics Society**—Derek Harnett, Tom Steele, Robin Kleiv, Timothy Richards, Jason Ho, Brendan Bulthuis, Hong-ying Jin
  October 2012 Vancouver, British Columbia
  - Charmonium Hybrid Masses From QCD Sum-Rules

- **UFV Undergraduate Student Research Day**—
  March 2008, 2009, 2010, 2011, 2012, 2013 Abbotsford, British Columbia
  - 2013 - *The Quantum Field Theory of Charmonium Hybrids* (Poster and Microlecture)

- 2012,2011 - *A New Technique for Calculation of Thermodynamic Properties of Hydrocarbons at Geochemical Conditions* (Poster)
- 2010 - *Force Field Parameterization for Molecular Dynamics Simulations of Alkanes at High Pressures and Temperatures* (Poster)
- 2009, 2008 - *Molecular Dynamics Simulations of Oil Components at Geological Conditions* (Poster)

- **49th European High Pressure Research Group (EHPRG) Conference**—Noham Weinberg, Jason Ho
  September 2011 Budapest, Hungary
  - *A New Technique for Calculation of Thermodynamic Properties of Hydrocarbons at Geochemical Conditions* (Poster)

- **CEMPURS 2009 (Computer Science, Chemistry, Engineering, Mathematics and Physics Undergraduate Research Symposium)**—Jason Ho, Sarah Reimer, Noham Weinberg
  August 2009 Abbotsford, British Columbia
  - *Molecular Dynamics Simulations of Oil Components at Geological Conditions* (Oral Presentation)

- **UBCO Undergraduate Research Conference**—Jason Ho, Sarah Reimer, Noham Weinberg
  April 2009 Kelowna, British Columbia
  - *Molecular Dynamics Simulations of Oil Components at Geological Conditions* (Poster)

- **47th EHPRG Conference**—Noham Weinberg, Jason Ho, Sarah Reimer
  September 2009 Paris, France
  - *Molecular Dynamics Simulations of Oil Components at Geological Conditions* (Poster)

Volunteer Work & Relevant Activities

- **Chair**—Physics and Engineering Physics Graduate Students Academic Council at the University of Saskatchewan (PEGASUS)
  October 2016 - present Saskatoon, Saskatchewan
  - Elected position responsible for advocacy on behalf of physics graduate students, liaise with the department of Physics & Engineering Physics, and long-term planning for PEGASUS.
- **Consultant**—Abbotsford School for the Integrated Arts
  November 2015 Abbotsford, British Columbia
  - Consulted with a Grade 8 classroom as part of the "Artists in the Classroom" grant from the British Columbia Arts Council to build a large-scale school-wide Rube Goldberg Machine.
  - Communicated mechanics and energy concepts in a hands-on learning environment.
- **Committee Member**—Graduate Student Association Fall Bursary Committee
  October 2015 Saskatoon, Saskatchewan
  - Assessed and recommended bursary application for graduate students expressing financial need.
- **Committee Member**—Women in Physics Canada Conference 2016 Organizing Committee
  September 2015-present Saskatoon, Saskatchewan
  - Responsible for planning and executing the 2016 Women in Physics Conference at the University of Saskatchewan.
- **Chair**—Graduate Student Association Finance Committee
  January 2015 - April 2015 Saskatoon, Saskatchewan
  - Elected committee chair responsible for directing the assembly of the 2015-16 operating budget for the University of Saskatchewan Graduate Student Association
- **Vice Chair**—Physics and Engineering Physics Graduate Students Academic Council at the University of Saskatchewan (PEGASUS)
  October 2014 - September 2016 Saskatoon, Saskatchewan
  - Elected position responsible for advocacy on behalf of physics graduate students, as well as organizing social events.
- **UFV Science Faculty Council (Student Representative)**—UFV Faculty of Science
  July 2012 - June 2013 Abbotsford, British Columbia
  - Represented student interests at monthly faculty meetings with regards to course and policy development.
- **President**—Physics Student Association
  January 2012 - August 2013 Abbotsford, British Columbia
  - Organized student social events, professional speakers, charity drives, and tours of local research institutions.
- **Science Columnist**—The UFV Cascade (Student Newspaper)
  June 2011 - October 2011 Abbotsford, British Columbia
  - Contributed popular physics articles to University of the Fraser Valley campus newspaper.

- **Regional and Special Awards Judge**—Fraser Valley Regional Science Fair
  March 2009 - 2013 Abbotsford, British Columbia
  - Volunteer judge at annual regional science fair for grades 2-12 in a wide range of subjects within the natural sciences.

Recognitions

- University of Saskatchewan Global Engagement Scholarship (2018)
- Mitacs Globalink Research Award (2018)
- Walter C. Sumner Memorial Fellowship (2017-2018)
- NSERC Post-graduate Doctoral Scholarship (2016-2019)
- University of Saskatchewan Graduate Teaching Fellowship (2015)
- Certified Wolfram Technology Associate at the *Mathematica* Student Level (2015)
- University of Saskatchewan Graduate Teaching Fellowship (2014)
- University of Saskatchewan Graduate Teaching Fellowship (2013)
- NSERC Undergraduate Student Research Award (2013, 2010)
- Nominated for Student Speaker at UFV Convocation Ceremony (2013)
- Nominated for UFV Communication Department Outstanding Speaker Award (2013)
- UFV Undergraduate Research Excellence Award (2013, 2012)
- Recognized in UFV Student Life's *The Standout Magazine 2012* for leadership roles at UFV (2012)
- UFV Student Life Leadership Award (2013, 2012)
- UFV Undergraduate Student Research Day Dean's Award (2012)
- Dean's List Standing (2011, 2008)
- University of the Fraser Valley Science Fair Award (2008)
- Canada-Wide Science Fair Honorable Mention (2008)