Trung Peter Ho
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Education

Ph.D. Applied Mathematics, University of California Santa Cruz (Expected 2026)
Advisor: Dr. Dongwook Lee
M.S. Physics, San Jose State University (2017 - 2020)
Advisor: Dr. Thomas Madura
B.A. Mathematics, California State University Fullerton (2007 - 2012)
B.S. Physics, California State University Fullerton (2007 - 2012)
Advisor: Dr. Bogdan Suceava

Employment

Part-time Instructor, Physics and Mathematics (2016 - Present)
Division of Physical Science, Mathematics, and Engineering, Foothill & De Anza Community College

teaching experience

- Foothill, Summer 2022 - Physics: Mechanics with Calculus
- De Anza, Spring 2022 - Special Projects in Mathematics: A survey of Numerical Methods
- De Anza, Winter 2022 - Physics: Introductory Physics in Mechanics
- Foothill, Winter 2022 - Physics: Mechanics with Calculus
- De Anza, Fall 2021 - Physics: Electricity and Magnetism with Calculus
- De Anza, Fall 2021 - Special Projects in Physics: Classifying Massive Stars with Zachary Sherman
- Foothill, Summer 2021 - Physics: Electricity and Magnetism with Calculus
- De Anza, Spring 2021 - Physics: Electricity and Magnetism with Calculus
- De Anza, Spring 2021 - General Introductory Physics: Electricity and Magnetism Lab
- De Anza, Winter 2021 - Physics: Preparatory Physics
- De Anza, Winter 2021 - Math: Precalculus I
- Foothill, Fall 2016 to Spring 2018 - Supplemental Instruction in Physics and Mathematics

Instructional Support Coordinator, Mathematics (2017 - 2022)
Division of Physical Science, Mathematics, and Engineering, De Anza College, Cupertino CA
Supervise tutorial services for a grant supported program, Math Performance Success.

Graduate Teaching Associate, Physics (2017 - 2020)
Department of Physics and Astronomy, San Jose State University, San Jose CA

teaching experience:

- Physics: Electricity and Magnetism Lab - Spring 2020
- Physics: Mechanics Lab - Fall 2018, Spring 2019, Summer 2019, and Fall 2019
- Introductory Physics Lab - Fall 2017 and Spring 2018

Tutorial Assistant, Mathematics (2015 - 2018)
Disability Student Services Dept., De Anza College, Cupertino CA
Provided tutorial assistance in mathematics for students with learning disabilities.

Primary Education Teacher, Mathematics (January 2015 - June 2015)
Sylvan Learning Company, Los Gatos CA

Graduate Teaching Associate, Mathematics (2012 - 2013)
Department of Mathematics, California Polytechnic State University, San Luis Obispo CA

teaching experience

- Precalculus - Fall 2012, Winter 2013, and Spring 2013

Instructional Assistant, Mathematics (2010 - 2011)
Department of Mathematics, California State University Fullerton, Fullerton CA

teaching experience

- Precalculus (Spring 2011)
- Calculus (Fall 2010)

Tutor, Mathematics (2008 - 2010)
Department of Mathematics, California State University Fullerton, Fullerton CA

Publications

1. Ho. T.P., Madura, T.I., et al., "A three-dimensional adaptive mesh refinement hydrodynamical simulation of Eta Carinae's colliding stellar winds around periastron", *in preparation.*
2. Ho T.P., "A three dimensional adaptive mesh refinement hydrodynamical simulation of Eta Carinae's colliding stellar winds around periastron", ProQuest, San Jose State University, Masters Thesis, June 2020 , Masters Thesis Advisor: Dr. Thomas Madura
3. Ho, P., Odom, L., and Suceava, B., "On chasles' property of the helicoid in tri-twisted real ambient space", *Analele Stiintifice Universitatii Ovidius Constanta*, 2015, Volume 23, p. 121-132
4. Ho, P. and Suceava, B., "Integrating the differential equations inspired by the umbilicity condition for rotation hypersurfaces in lorentz-minkowski space", *International Electronic Journal of Geometry*, 2013, Volume 6, p.151-158
5. Ho P., "Remarks on de sitter spacetime: geometry in the theory of relativity", *Dimensions: Undergraduate Research Journal by the College of Natural Science and Mathematics*,
California State University Fullerton, 2011, p.67-77, Undergraduate Advisor: Dr. Bogdan Suceava

Professional Activities

Undergraduate Research Judge in Physical Science and Mathematics
California State University Student Research Competition (2022)
Reviewed and evaluated student research submissions.

Grader, Physics (Fall 2018 and Fall 2019)
Graded assignments in a graduate physics course, mathematical methods of physics.

Section Editor, Mathematics (Spring 2011 and Spring 2012)
College of Natural Science and Mathematics' Dimensions: Undergraduate Research Journal
California State University Fullerton, Fullerton CA

Awards

University of California Santa Cruz
• Regents Doctoral Fellowship (Academic Year 2021 - 2022)

California State University Fullerton
• Robert W. Kedzie Award for "demonstration of progress as a physics major" (Spring 2012)
• Edward L. Cooperman Award for "academic achievements in physics" (Spring 2011)

Skills

Programming Languages: FORTRAN, Python, MatLab, C++, Mathematica

Data Science: SQL, ScikitLearn Machine Learning, AstroML, Astropy

Software: Microsoft Office Applications (word, excel, powerpoint), GNU Image Manipulation Program (GIMP), Adobe Applications (Premiere, Rush)

Undergraduate Research Experience

My research experience as an undergraduate student is in the area of differential geometry. During this experience my research was in studying sets of problems of metric spaces and the measurement of values on special cases of ambient spaces. One part of this study takes an application on physics with the geometry related to Einstein's general theory of relativity.

Talks and conference presentations:

Title: "On Chasles' Property Invariance Property of the Helicoid in the Tri-Twisted Real Ambient Space" in joint work with Lucy Odom:

-*Math Colloqium* at Whittier College (Spring 2012)
-*MAA SoCal-Nev Section Meeting* at California State University, Fullerton (Spring 2012)
-*Pacific Coast Undergraduate Math Conference* at Cal Poly Pamona (Spring 2012)
-*2012 Mathematical Association and American Mathematical Society Joint Mathematics Meeting*, Poster presentation (Spring 2012)
-*Mathematical Association of America SoCal-Nev Section Meeting*, Contributed paper session (Fall 2011)
-*Math Dept. Seminar in Geometry* at California State University Fullerton (Fall 2011)

"A question of David Hilbert and its application to classes of metrics"
Math Dept. Colloquim at California State University Dominguez Hills (Spring 2012)

"Rotation hypersurfaces of Lorentz-Minkowski space with all points umbilics"
-*Math Dept. Seminar in Geometry* at Chapman University (Fall 2011)
-*Math Dept. Seminar in Geometry* at California State University Fullerton (Fall 2011)

"Hyperbolic space as a Riemann manifold: computing its curvature"
Math Dept. Seminar in Geometry at California State University Fullerton (Fall 2011)

"Understanding de sitter spacetime: a geometric interpretation in general relativity"
Math Dept. Seminar in Geometry California State University Fullerton (Fall 2010)

Putnam problem solving seminars:
"Change of variable methods in multiple integrals" (Fall 2011)
"Some methods in simplyfing systems of equations" (Fall 2010)
"Jacobian integrals and coordinate transformations" (Fall 2009)