Xiaosheng Huang

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Education

PhD, Physics: University of California, Berkeley	December, 2004
MA, Physics, Kent State University	May, 1995
BS, Physics (Summa Cum Laude), Kent State University	May, 1995

Professional Appointments

Professor: Department of Physics & Astronomy, University of San Francisco	2024 –
Associate Professor: Department of Physics & Astronomy, University of San Francisco	2018 – 2024
Assistant Professor: Department of Physics & Astronomy, University of San Francisco	2012 – 2018
Lecturer: Physics Department, University of California, Berkeley	2007 – 2012
Postdoctoral Fellow: UC Berkeley/Lawrence Berkeley National Laboratory	2005 – 2012
Graduate Student Researcher: Physics Department, UC Berkeley	2000 – 2004
Graduate Student Researcher: Astronomy Department, UC Berkeley	1996 – 1999
Graduate Student Instructor: Physics Department, UC Berkeley	1995, 1999
Teaching Assistant: Physics Department, Kent State University	1993 – 1995
Lab Assistant: Liquid Crystal Institute, Kent State University	1992 – 1993

Press Releases & Publicity

NPR Interview	2025
Lawrence Berkeley National Laboratory Press Release	2024
USF News Article on Roman Space Telescope Program	2023
Lawrence Berkeley National Laboratory Computing Sciences Highlight	2023
European Southern Observatory Press Release	2023
American Astronomical Society Nova Highlight	2023
Press Conference, American Astronomical Society Annual Meeting	2021
American Astronomical Society Nova Highlight	2021
National Science Foundation's NOIRLab Press Release	2021
Lawrence Berkeley National Laboratory Press Release	2021
Lawrence Berkeley National Laboratory Press Release	2020
USF Magazine Article on Faith	2020
USF News Article on Hubble Space Telescope Program	2019

Awards & Grants

Hubble Space Telescope Program, with NASA Grant ($190K projected)	2025
Hubble Space Telescope Program, with NASA Grant ($60K projected)	2025
Dean's Scholar Award, College of Arts & Sciences, USF	2024
NASA Roman Space Telescope Mission Research and Support Program ($64K)	2023
Outstanding Mentors Award, Lawrence Berkeley National Laboratory	2021
Hubble Space Telescope Program, with NASA Grant ($189K)	2019
Visiting Faculty Program, Department of Energy (with summer stipends)	2017, 2018, 2019, 2025
Faculty Development Fund, USF (multiple awards)	2012 –
Graduate Student Travel Grant, University of California, Berkeley	2004
University Fellowship, University of California, Berkeley	1995

Teaching

Teaching Highlights

I have developed, and continue to update, the artificial intelligence (AI) course series since 2013: PHYS 301, 302, and 303. I have also established two minor programs: Engineering Physics and Applied AI.

Courses, University of San Francisco, 2012 –

PHYS 120	Astronomy: From the Earth to the Cosmos
PHYS 120 Lab	See above
PHYS 121	Planetary Astronomy
PHYS 121 Lab	See above
PHYS 301	Introduction to Scientific Computation
PHYS 302	Scientific Computation & Machine Learning
PHYS 303	Deep Learning & Bayesian Learning
PHYS 343	Astrophysics (Cosmology)
PHYS 350	Physics Colloquium
PHYS 371	Methods of Mathematical Physics
ENGR 302	Scientific Computation

Courses, University of California, Berkeley (2007 – 2012, As a Lecturer)

PHYS (H)7B	Thermodynamics and Electricity and Magnetism for Scientists and Engineers (H: honors)
PHYS 7B	Thermodynamics and Electricity and Magnetism for Scientists and Engineers
PHYS 7C	Modern Physics for Scientists and Engineers
PHYS 8A	Mechanics and Thermodynamics for Life Sciences Majors
PHYS 112	Statistical Mechanics (upper division)
PHYS 137	Quantum Mechanics (upper division)

Development of New Courses

- The AI series:

    1. Introduction to Scientific Computation (PHYS 301)

        – 2013: Before my arrival at USF, this course was dormant for a decade. I developed an up-to-date course from the ground up, using the Python language, and introduced students to a suite of scientific computation libraries (Numpy, Scipy, and Matplotlib) under the existing course number/name (at the time, it was called Computational Physics).

        – 2015: Development of a second, much more advanced, version of this course, with an added lab component. This was made possible by including CS110 (Intro. to Computer Science) as a prerequisite. It was still under the same course number, but I expanded the content beyond traditional computational physics topics (e.g., numerical differentiation and integration) and renamed it more accurately as Intro. to Scientific Computation. It now covered a number of powerful scientific computation and "classic" machine learning tools, with much of the material once again developed from the ground up as there were hardly any undergraduate textbooks for most of the topics. These included Monte Carlo simulations, matrix operations, discrete Fourier transform (DFT), principal component analysis (PCA), and support vector machine (SVM).

        – 2022, Adaptation to and cross listing as a Master's level class for the Computer Science Department.

2. Scientific Computation & Machine Learning (PHYS 302)

   - 2016: This course was developed under a new course name/number. It covers more, and in greater depth, contemporary computational tools that could not be included in PHYS 301. The topics covered (again developed from the ground up) include: decorators in Python, linear regression, artificial neural networks, numerical methods for differential equation systems, and symbolic computation. This course also has a lab component.

   - 2020 & 2023: Adaptation to and cross listing as a Master's level class for the Computer Science Department and the Economics Department, by adding more advanced topics such as residual neural networks and reinforcement learning.

3. Deep Learning and Bayesian Learning (PHYS 303)

   - 2023: This course covers Bayesian and deep learning methods for data analysis. It covers deep learning architectures, Bayesian statistics, Hamiltonian Monte Carlo (HMC), latent variables, multi-dimensional optimization. It focuses on Bayesian data analysis and deep learning techniques that are fast, robust, and scalable to high dimensional parameter spaces and large datasets (e.g., HMC, Transformer). Approximately the first half of the course will be on deep learning, and the second half on Bayesian learning, and the culmination of the course will be combining deep learning and the Bayesian framework.

   - 2025, Adaptation to and cross listing as a Master's level class for the Computer Science Department.

- Scientific Computation For Engineers (ENGR 302)

   - 2022: A 2-unit course I developed for the Engineering students, focusing on engineering applications.

- Astrophysics (PHYS 343)

   - 2013: Development of a new cosmology course under an existing course name/number.

Research

Research Highlights

Among the biggest questions about the cosmos are the nature of dark energy and dark matter, and the expansion rate of the universe. To unravel these mysteries, I lead the **multi-institutional** *DESI Strong Lens Foundry Project* within the the Dark Energy Spectroscopic Experiment (DESI), a major DOE program led by the Lawrence Berkeley National Laboratory. I also collaborate with the Supernova Cosmology Project, led by Prof. Perlmutter (Nobel Prize 2011). Using DESI imaging data, my team found over 5000 new strong lens candidates, with multiple press releases and participation in a press conference. We also developed a state-of-the-art lens modeling pipeline using GPUs. These results have led to a number of successful proposals. I am the PI of a Hubble Space Telescope program with a $189K NASA grant. I am also the Co-PI or a Co-I of multiple successful proposals to major ground-based telescopes, including at the Keck Observatory and the European Southern Observatory, and to the Nancy Grace Roman Space Telescope (with $64K NASA grant) and jointly to the Hubble Space Telescope & James Webb Space Telescope. Select results from recent publications can be found on our project website.

Peer-reviewed Publications(* = USF students, underlined)

1. S. Agarwal , **X. Huang**, et al. 2025, submitted to ApJ,
   DESI Strong Lens Foundry III: Keck Spectroscopy for Strong Lenses Discovered Using Residual Neural Networks

2. **X. Huang**, et al. 2025, submitted to ApJ, arXiv:2502.03455
   DESI Strong Lens Foundry I: HST Observations and Modeling with GIGA-Lens

3. E. Silver, R. Wang, **X. Huang**, A. Bolton, et al., 2025, accepted by ApJ
   ML-Driven Strong Lens Discoveries: Down to $\theta_E \sim 0.03''$ and $M_{halo} < 10^{11} M_\odot$

4. D. Rubin et al. 2025, ApJ, 986 231
   Union through UNITY: Cosmology with 2000 SNe Using a Unified Bayesian Framework

5. Bryce Wedig et al. 2025, ApJ, 986, 42
   The Roman View of Strong Gravitational Lenses

6. Elahe Khalouei et al. 2025, A&A, 698, 266
   Detection of unresolved strongly lensed supernovae with the 7-Dimensional Telescope

7. J. D. R. Pierel et al. 2024a, ApJ, 967, 50
   JWST Photometric Time-delay and Magnification Measurements for the Triply Imaged Type Ia "SN H0pe" at z = 1.78

8. J. D. R. Pierel et al. 2024b, ApJL 967 L37
   Lensed Type Ia Supernova "Encore" at z = 2: The First Instance of Two Multiply Imaged Supernovae in the Same Host Galaxy

9. William Sheu, Aleksandar Cikota, **Xiaosheng Huang** et al., 2024, ApJ, 973, 3
   The Carousel Lens: A Well-Modeled Strong Lens with Multiple Lensed Sources

10. William Sheu, **Xiaosheng Huang**, et al., ApJ, 973, 24
    A Targeted Search for Variable Gravitationally Lensed Quasars

11. *<u>C. Storfer</u>, **X. Huang**, et al., 2024, ApJS, 274, 16
    New Strong Gravitational Lenses from the DESI Legacy Imaging Surveys Data Release 9

12. *C. Dawes, <u>C. Storfer</u>, **X. Huang**, G. Aldering, A. Dey, D. J. Schlegel, 2023, ApJS, 269, 61
    Finding Multiply-Lensed and Binary Quasars in the DESI Legacy Imaging Surveys

13. A. Cikota, I. Bertolla, **X. Huang**, et al., 2023, ApJL, 953, L5
    A New Einstein Cross Spectroscopically Confirmed with VLT/MUSE and Modeled with GIGA-Lens

14. A. Filipp, Y. Shu, R. Pakmor, S. H. Suyu, and **X. Huang**, 2023, A&A, 677, A113
    Simulation-guided Galaxy Evolution Inference: A Case Study with Strong Lensing Galaxies

15. D. Langeroodi, et al., 2023, ApJ, 957, 39
    Evolution of the Mass-Metallicity Relation from Redshift $z \approx 8$ to the Local Universe

16. W. Sheu, **X. Huang**, A. Cikota, N. Suzuki, D.J. Schlegel, C. Storfer, ApJ, 952, 10, 2023
    Retrospective Search for Strongly Lensed Supernovae in the DESI Legacy Imaging Surveys

17. J.D.R. Pierel, N. Arendse, S. Ertl, **X. Huang**, L. A. Moustakas, S. Schuldt, A. J. Shajib, Y. Shu, S. Birrer, M. Bronikowski, J. Hjorth, S. H. Suyu, et al., 2023, ApJ, 948, 115
    LensWatch: I. Resolved HST Observations and Constraints on the Strongly-Lensed Type Ia Supernova 2022qmx ("SN Zwicky")

18. A. Gu, **X. Huang**, et al., ApJ, 935, 17, 2022
    GIGA-Lens: Fast Bayesian Inference for Strong Gravitational Lens Modeling

19. B. Hayden, et al., ApJ, 912, 87, 2021
    The HST See Change Program: I. Survey Design, Pipeline, and Supernova Discoveries

20. ***X. Huang**, <u>C. Storfer</u>, A. Gu, <u>V. Ravi</u>, <u>A. Pilon</u>, et al., ApJ, 909, 27, 2021
    Discovering New Strong Gravitational Lenses in the DESI Legacy Imaging Surveys

21. ***X. Huang**, <u>M. Domingo</u>, <u>A. Pilon</u>. <u>V. Ravi</u>, <u>C. Storfer</u>, D.J. Schlegel, et al., ApJ, 894, 78, 2020
Finding Strong Gravitational Lenses in the DESI DECam Legacy Survey

22. J. Kim, M.J. Jee, S. Perlmutter, B. Hayden, D. Rubin, **X. Huang**, G. Aldering, J. Ko, ApJ, 887, 76, 2019
Precise Mass Determination of SPT-CL J2106-5844, the Most Massive Cluster at $z > 1$

23. *R. Rubin, B. Hayden, X. Huang, ..., <u>Z. Raha</u>, et al., ApJ, 866, 65, 2018
The Discovery of a Gravitationally Lensed Supernova Ia at Redshift 2.22

24. ***X. Huang**, G. Aldering, <u>M. Biederman</u>, and <u>B. Herger</u>, ApJ, 850, 84, 2017
On the Time Variation of Dust Extinction and Gas Absorption for Type Ia Supernovae Observed through a Nonuniform Interstellar Medium

25. ***X. Huang**, <u>Z. Raha</u>, et al., ApJ, 836, 157, 2017
The Extinction Properties of and Distance to the Highly Reddened Type Ia Supernova SN 2012cu

26. J. Nordin, et al., MNRAS, 440, 2742, 2014
Lensed Type Ia supernovae as probes of cluster mass models

27. D. Rubin, et al., ApJ, 763, 35, 2013
Precision Measurement of The Most Distant Spectroscopically Confirmed Supernova Ia with the Hubble Space Telescope

28. N. Suzuki, et al., ApJ, 746, 85, 2012
The Hubble Space Telescope Cluster Supernova Survey: V. Improving the Dark Energy Constraints Above $z > 1$ and Building an Early-Type-Hosted Supernova Sample

29. K. Barbary, et al., ApJ, 745, 31, 2012
The Hubble Space Telescope Cluster Supernova Survey. VI. The Volumetric Type Ia Supernova Rate

30. K. Barbary, et al., ApJ, 745, 32, 2012
The Hubble Space Telescope Cluster Supernova Survey: II. The Type Ia Supernova Rate in High-Redshift Galaxy Clusters

31. M.J. Jee, et al., ApJ, 737, 59, 2011
Scaling Relations and Overabundance of Massive Clusters at $z \gtrsim 1$ from Weak-lensing Studies with the Hubble Space Telescope

32. **X. Huang**, et al., ApJL, 707, L12, 2009
Hubble Space Telescope Discovery of a $z = 3.9$ Multiply Imaged Galaxy Behind the Complex Cluster Lens Warps J1415.1+36 at $z = 1.026$

33. K.S. Dawson, et al., AJ, 138, 1271, 2009
An Intensive HST Survey for $z > 1$ Type Ia Supernova by Targeting Galaxy Clusters

34. K. Barbary, K., et al., ApJ, 690, 1358, 2009
Discovery of an Unusual Optical Transient with the Hubble Space Telescope

35. **X. Huang**, et al., 2006, Solid State Communications, 140, 163
Pressure Dependence of Tc and Hc2 of a Dirty Two-gap Superconductor, Carbon-doped MgB2

36. **X. Huang**, W. Mickelson, B.C. Regan, and A. Zettl, 2005, Solid State Communications, 136, 278
Enhancement of the Upper Critical Field of MgB2 by Carbon-doping

37. W. Han, J. Cumings, **X. Huang**, et al., Chemical Physics Letters, 346, 368, 2001
Synthesis of Aligned BxCyNz Nanotubes by a Substitutionreaction Route

38. T. Broadhurst, **X. Huang**, B. Frye, and R. Ellis, ApJL, 534, L15, 2000
A Spectroscopic Redshift for the Cl 0024+16 Multiple Arc System: Implications for the Central Mass

Distribution

Publications in Prep(* = USF students, underlined)

39. ***X. Huang**, <u>Jose Carlos Inchausti</u>, et al., 2025, in prep.
    DESI Strong Lens Foundry II: DESI Spectroscopy for Strong Lens Candidates

40. E. Emerald, I. Bertolla, A. Cikota, **X Huang**, et al. 2025, in prep.
    DESI Strong Lens Foundry VI: Spectroscopic Confirmation of DESI Lens Candidates with VLT/MUSE

41. **X. Huang**, et al. 2025, in prep.
    DESI Strong Lens Foundry V: An HST Sample of Strong Lenses Modeled with GIGA-Lens

Other Publications

- Pierel, J. et al., Transient Name Server AstroNote 2022-196 Multiple Images of SN 2022qmx ("SN Zwicky") Resolved in HST Observations
- Boone, K. et al., 2016ATel. 9125 SCP16L01: discovery of an unusual transient in MOO-J1142

Principal-Investigator, Successful Telescope Proposals

- Co-PI, Keck Observatory, 2022 - 2025: Strong Lensing Redshifts and Modeling for Dark Matter Low-Mass Halo Detection
- Co-PI, DESI Secondary Target Program, 2021: Spectroscopic Confirmation of Strong Gravitational Lens Candidates in DESI
- PI, Hubble Space Telescope, 2019 (Cycle 27): Confirming Strong Galaxy Gravitational Lenses in the DESI Legacy Imaging Surveys

Co-Investigator, Successful Telescope Proposals

- Hubble Space Telescope:
  - 2024, Confirming Spectroscopic Strong Lens Candidates from the DESI One-Percent Survey (PI: A. Bolton)
  - 2024, An Automated Pipeline for Modeling of Strong Gravitational Lenses Observed by HST (PI: C. Strorfer)
  - 2022 (Cycle 30), Imaging and Spectroscopy of Three Highly Magnified Images of a Supernova at z=1.5 (PI: P. Kelly, University of Minnesota)
  - 2020 (Cycle 28), LensWatch: Time Delay Measurement of a Multiply-Imaged Supernova (PI: J. Pierel, Space Telescope Science Institute)
  - 2016/2017 (Cycle 24, 25), SUbaru Supernovae with Hubble Infrared (SUSHI) (PI: N. Suzuki, Institute for the Physics and Mathematics of the Universe)
  - 2014/2015 (Cycle 22, 23), See Change: Testing time-varying dark energy with $z > 1$ supernovae and their massive cluster hosts (PI: S. Perlmutter, Lawrence Berkeley National Laboratory)
- Alma APEX:
  - 2024, ASADOS: APEX ScAvenger hunt for lenseD gas-rich ObjectS (PI: Kevin Harrington)
- Nancy Grace Roman Space Telescope:
  - 2023 (NASA ROSES-D.14, approved), Enabling Lensed SN Cosmology with the Roman Space Telescope (PI: J. Pierel, Space Telescope Science Institute)
- Joint Hubble Space Telescope & James Webb Space Telescope Program:

- – 2023, Pioneering Precision: Advancing Cosmology with the First Statistical Sample of Gravitationally Lensed Supernovae (PI: J. Pierel, Space Telescope Science Institute)
- James Webb Space Telescope:
  - – 2022 (Cycle 1), Imaging and Spectroscopy of Three Highly Magnified Images of a Supernova at z=1.5 (Together with the Hubble Telescope Program below; PI: P. Kelly, University of Minnesota)
- Very Large Telescope, European Southern Observatory:
  - – 2023, Characterization of galaxy-galaxy gravitational lens systems with MUSE (PI: A. Cikoka NSF's NOIRLab)
  - – 2022, High-redshift mass assembly with DESI strong-lensing (PI: Eric Jullo, Laboratoire d'Astrophysique de Marseille)
  - – 2021 & 2022, A Filler Program for the Apocalypse: end all weather-idle-time on UT4 (PI: F. Bian, European Southern Observatory)
- NSF's NOIRLab Dark Energy Camera (DECam) on the Blanco Telescope:
  - – 2023, DECam Survey for Gravitational Wave O4 Follow-up (PIs: I. Andreoni & A. Palmese, Carnegie Mellon University)
  - – 2023, DECaLS Extended Imaging Survey (PI: D. Schlegel, Lawrence Berkeley National Laboratory)
  - – 2022 & 2023 DESIRT: DECam Survey for Intermediate-redshift Transients (PI: A. Palmese, Carnegie Mellon University)
- Keck Observatory: multiple proposals, 2010 – 2018

Service

Service Highlights

I have mentored over 30 undergraduate students, from USF and other universities, in research projects. For the mentoring work I did that involved students in the Department of Energy SULI program, I was recognized with the Outstanding Mentors Award of 2021. In addition to my mentoring work, I lead the DESI Strong Lens Foundry Project with researchers from multiple institutions.

Service to University/College

- Curriculum development, the Engineering Department: 2016 –
  - – Joint appointment in the Engineering Department: 2020 –
- Committees
  - – Dean's Award Review Committee, 2025
  - – Distinguished Research Committee: member, 2014; Chair, 2015 & 2016
  - – Honorary Degree Committee: 2014 – 2018
  - – Learning Technologies Subcommittee: 2015 – 2018
  - – Learning Analytics Subcommittee: 2017 – 2018
- Destination USF Mock Class (for prospective students): 2016

Service to Department/Students

- Mentoring Student Research:
    - Supervision for USF student research projects: every year since 2013, which resulted in multiple peer-reviewed papers with USF students as co-authors in The Astrophysical Journal (ApJ),
    - USF Department of Computer Science, Master of Science Capstone Project mentor: 2018, 2019, and 2022.
    - Supervision for student research presentations
        * American Astronomical Society Annual Meeting 2020
        * Poster presentations at the USF Creative Activity & Research Day (CARD): 2014, 2015, 2018, 2019, 2023, 2024
        * Posters at multiple university and College of Arts & Sciences events: Dean's Circle Event and Poster Session 2022; USF President's Inauguration 2014; USF Changing the World through Science and Innovation Symposium 2013.
    - Guidance for a successful student proposal for the USF Summer Research Fellowship: 2015
- The Engineering Physics Minor Program: since 2016, a total of 20 students granted the Minor
- Applied AI Minor Program (starting in Fall 2025)
- Other Service:
    - Faculty Search Committees (tenure lines): 2016, 2018

Professional Activities & Service

- 2019 –: Leading an international research collaboration from multiple institutions: the DESI Strong Lens Foundry

- 2013 –: Being a hands-on mentor in summer internship programs at the Lawrence Berkeley National Laboratory for students from USF, UC Berkeley, Princeton University, the University of Chicago, National Taiwan University, Rose-Hulman Institute of Technology, Complutense University of Madrid. Some of these students are in the Department of Energy (DOE) SULI program. My mentoring in the SULI program resulted in being given the Outstanding Mentors Award from the Lawrence Berkeley National Laboratory in 2021. See also, a former student being featured in an Department of Energy Workforce Development and Education (WD&E) article in 2021 and another student being given the Department of Energy National Energy Research Scientific Computing Center (NERSC) Early Career Award in 2022.

- PhD Thesis Committee, the Institute for Astronomy at the University of Hawai'i: 2023 –

- Senior Thesis Committee, Yale University: 2024-2025

- Hubble Space Telescope proposal reviewer: MidCycle 27, Main Cycle 29

- Journal Referee (Impact Factor):
    - *Nature Astronomy* (15.6)
    - *Space Science Review* (9.5)
    - *The Astrophysical Journal Supplement Series* (9.2)
    - *The Astronomical Journal* (6.2)
    - *Monthly Notices of the Royal Astronomical Society* (5.2)

- Presentation at the workshop for the Department of Energy's Visiting Faculty Program at the Lawrence Berkeley National Laboratory: 2022, 2024

- Presentation at the Department of Energy's Visiting Faculty Program Alumni Panel Discussion: 2023

- Conference Presentations:
  - Science with strong lensing, ALMA and next generation radio interferometry, National Radio Astronomy Observatory (NRAO), Charlottesville, VA, May, 2025
  - Strong Gravitational Lensing Science Conference, Center for Astrophysics (CfA), Harvard/Smithsonian, March, 2025
  - Strong Gravitational Lensing Science with LSST in Oxford, UK: 2024
  - The DESI Collaboration Meeting in Durham, UK: 2023
  - Poster presentations at American Astronomical Society (AAS) annual meeting: 2014, 2016, 2017, 2018, 2019, 2020, 2021
  - The Nearby Supernova Factory Collaboration Meeting in Clermont-Ferrand, France: 2017

- Judge for the Chambliss Astronomy Achievement Student Awards, American Astronomical Society annual meeting: 2017

- Speaker at the Astronomy Career Development Seminar, UC Berkeley: 2016

- Member of the American Astronomical Society

Invited Talks

- Colloquium, Department of Physics, Santa Clara University, April, 2025

- Cosmology Seminar, Department of Physics and Astronomy, University of California, Davis, March, 2025

- Colloquium, Department of Physics and Astronomy, University of Rochester, September, 2024

- Colloquium, Department of Physics and Astronomy, University of San Francisco, November, 2023

- Machine Learning Seminar, Lawrence Berkeley National Laboratory, Physics Division, December 2022

- Kavli Institute for Particle Astrophysics and Cosmology, Stanford University, April, 2022

- Data Seminar, the National Energy Research Scientific Computing Center (NERSC), April, 2022

- Seminar, Lawrence Berkeley National Laboratory, Physics Division, May, 2021

- Astrophysics Seminar, Department of Physics, Florida State University, April, 2020

- Colloquium, Department of Physics and Astronomy, University of San Francisco, April, 2017

- Colloquium, Department of Physics and Astronomy, San Jose State University, October, 2016

- Public Lecture: Wonderfest, Bay Area Beacon of Science (Mt. Tamalpais), August, 2016.

- Department of Physics & Astronomy, Sonoma State University "What Physicists Do" Series, April, 2015