

Seyedeh Sona Hosseini

Dr. Sona Hosseini
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Research Interests

Contemporary Apparatus and Optical Systems, Interdisciplinary Applications of Instruments and Methods, Ground and Space Based Astronomical Instruments, Interferometers, Design and Construction of Optical Instrumentation, Design and Construction of astronomical Instrumentation, Miniaturized astronomical systems, Mission Qualified Astronomical Instruments, High Resolution Wide Field of View Spectrometry, Planetary Science, Cometary Science, Earth's Upper Atmosphere, Instrumentation techniques to study the planet upper atmosphere, mission qualified instrumentation, ground and space based astronomical instruments, interferometers, design and construction of optical instrumentation, high resolution wide field of view spectrometry, planetary formation, planetary atmospheres and evolution, cometary science, evolution and aging processes in comets, observation techniques of cometary coma and extra-solar planetary systems, Kuiper belt comets, astrobiology, methods for detecting Life on other planets, analysis of extraterrestrial atmospheres, habitability of extraterrestrial environments, Interdisciplinary Applications of astronomical instrumentation and methods in various fields

Education

- 2008 to 2015 ■ **PhD**, Engineering Applied Science, College of Engineering, University of California Davis, CA. Dissertation "Tunable Reflective Spatial Heterodyne Spectrometer: A Technique for High Resolving Power, Wide Field Of View Observation Of Diffuse Emission Line Sources"; Advisor: Dr. Walter Harris
- 2008 - 2010 ■ **M.S. in Science**, Engineering Applied Science, College of Engineering, University of California Davis, CA. Dissertation "Tunable All Reflective Spatial Heterodyne Spectroscopy, a Technique for High Resolving Power Observation of Defused Emission Line Sources"; Advisor: Dr. Walter Harris
- 2005 - 2006 ■ **M.S. in Science**, Physics and Astronomy, University of Zanjan, Iran. Thesis "Investigation and Measurement of Light Pollution and Sky Brightness for Urban and Observatory Sites"; Advisor: Dr. Sadoullah Nasiri
- 2000 - 2004 ■ **B.S. in Physics**, Physics and Minor in Atomic Physics, University of Isfahan, Iran. Thesis I "Investigation of Extra solar system planets: existance and formation". Thesis II "Design and Construction of a Dark Sky Metter"; Advisor for both thesis: Dr. Ahmad Kiasatpour
- 1996-2000 ■ **High School**, Math and Physics devision, National Organization for Development of Exceptional Talents (NODET) High School, Zanjan, Iran
- 1993-1996 ■ **Junior High School**, Fereshteh Junior High, Zanjan, Iran
- 1991-1993 ■ **Elementary school**, Grade 1 to 5, Hejab Elementary School, Zanjan Iran
- 1989-1991 ■ **Elementary school**, Grade 1 to 3, Sinclair Elementary School, San Antonio, TX, USA
- 1988-1989 ■ **Elementary school**, Grade 1, Fereshteh Elementary School, Zanjan, Iran

Research Positions

- 2015 - Present ■ Research and Instrument Scientist, Jet Propulsion Laboratory - Caltech, Pasadena, CA
- 2008 - 2015 ■ Graduate Student Researcher Department of Engineering Applied Science, University of California Davis, CA. Advisor: Dr. Walter Harris
- 2004 - 2006 ■ Graduate Student Researcher, Physics Department, Zanjan University, Iran. Advisor: Dr. Sadoullah Nasiri
- 2000 - 2004 ■ Undergraduate Research Assistance and Laboratory Manager: Isfahan University, Astronomy lab, Isfahan, Iran. Advisor: Dr. Ahmad Kiasatpour. Responsibilities: assistance in repairing instrumentation and managing the laboratory operations, building new telescope parts.
- 2000 - 2002 ■ Undergraduate Research Assistance and Laboratory co-manager: Isfahan University, Dr. Borzabadi's lab, Isfahan, Iran. Responsibilities: assistance in fixing the broken apparatuses and cleaning the lab, ordering new item for the experiments on separation of minerals using electromagnetic methods.
- 2001 - 2002 ■ Undergraduate Research Assistance and Laboratory co-manager, Theoretical and experimental Investigation of the Optical Refractive Index of salt and water solutions, Advisor: Dr. Hassani
- 1995 - 2000 ■ Student Research and Laboratory Assistance, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran. Responsibilities: assistance in fixing the broken apparatuses and co-managing the lab.
- 1997 - 1998 ■ Student Research Assistance, Farzaneghan High School, Zanjan, Iran. Responsibilities: building and Investigating the characteristics' of a Superconductor type II. Mentor Ms. Kharrati
- 1996 - 1998 ■ Student Research Assistance, Farzaneghan High School, Zanjan, Iran. Responsibilities: Investigating the effects of electromagnetism on plant's growth.
- 1993 - 1995 ■ Student Research Assistant, Hejab Junior High, Zanjan, Iran. Responsibilities: Investigating the Solar System Water line and publishing the results in weekly wall paper.

Honors and Awards

- 2014, June 24 ■ NASA Earth And Space Science Fellowship (NESSF), Planetary Sciences Category
- 2014, May 19 ■ UC Davis Graduate Council Student International Travel Award, Office of Graduate Studies, UC Davis, CA
- 2014, May 18 ■ [Young Scholar Award](#), Association of Professors and Scholars of Iranian Heritage (APSIH), UCLA, CA
- 2014, May 7 ■ Graduate Dissertation Award, Association of Professors and Scholars of Iranian Heritage, UCLA, CA
- 2014, February ■ SPIE Travel grant, SPIE Photonics West, San Francisco, CA
- 2013, July ■ SPIE Officer Travel grant, Leadership Workshop, SPIE Optics and Photonics, San Diego, CA
- 2013, June 25 ■ NASA Earth And Space Science Fellowship (NESSF), Planetary Sciences Category
- 2012, July ■ UC Davis Graduate Student Association (GSA) Travel Award, Instrumentation for Planetary Missions (IPM) meeting, Greenbelt, MD
- 2012, June 24 - 28 ■ Student Travel Award, The Conference on Comparative Climatology of Terrestrial Planets, Boulder, CO
- 2012, May 25 ■ John Kiel Scholarship in Optics and Photonics for Potential of Long Term Contribution in Optical Sciences to Optics Society sponsored by SPIE
- 2012, May 22 ■ NASA Earth And Space Science Fellowship (NESSF), Planetary Sciences Category
- 2011, October ■ OSA Leadership Workshop Travel Award, San Jose, CA
- 2011, July ■ SPIE Officer Travel grant, Leadership Workshop, SPIE Optics and Photonics, San Diego, CA
- 2011, January ■ CWR (Consortium for Women and Research) Travel Award for AGU Meeting, San Francisco, CA
- 2010, June 6 ■ Summer Graduate Student Researcher Award, College of Engineering, University of California Davis, CA
- 2010, April 18 ■ 1st place Interdisciplinary Graduate Symposium, Poster Category, University of California Davis, CA
- 2009, April ■ Golden Key International Honor, University of California Davis, CA
- 2007, May 2 ■ Best Tutor of the Month Award, Student Learning Assistance Center (SLAC), San Antonio College, San Antonio, TX
- 2006, August 14 ■ 1st Place Best Graduate Thesis Award, Master's Thesis, Zanjan University, Iran

Teaching Experience

- 2010 ■ Private Tutor, Physics and Math for high school and undergraduate level, Davis, CA
- 2009 ■ Teaching Assistant, Dr. Yin Yeh "Nonlinear Optics", UCD
- 2009 ■ Teaching Assistant, "Numerical Analysis", Dr. Greg Miller, UCD
- 2006 - 2007 ■ Tutoring, Student Learning Assistance Center (SLAC), San Antonio College, San Antonio, TX
- 2006 - 2007 ■ Private Tutor, Physics, Astronomy and Math for high school and undergraduate level, San Antonio, TX
- 2005 - 2006 ■ Teaching Physics Laboratory 1 and 2 (Mandatory for Physics Majors), Zanjan University
- 2005 ■ Teaching Assistant, Classical Mechanics, Electricity and Magnetism, Zanjan Univ.
- 2004 ■ Teaching Assistant, Classical Mechanics, Electricity and Magnetism, Birjand Univ.
- 2002 - 2006 ■ Teaching Short Courses in Astronomy in Isfahan and Zanjan High Schools
- 2005 ■ Teaching Assistance, Astronomy Course, Isfahan University, Iran
- 2002 - 2004 ■ Teaching Assistant, Physics Laboratory 1,2 and 3 (Mandatory for Physics Majors), Isfahan University, Iran
- 1996 - 2000 ■ Teaching Assistant, High School Physics Laboratory, Farzaneghan High School, Zanjan, Iran

Individual Mentoring and Supervising

- 2013 - 2015 ■ Brian Vargas, Undergraduate student in Mathematics and Minor in Computer Sciences, UCD. Responsibilities: User-friendly interface for Khayyam data reduction code
- 2013 - 2014 ■ Walt Tran, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Building and fixing a new roof mirror design, Integrating Motorized Rotation Stages into Khayyam
- 2013 - 2014 ■ Syeda Inamdar, Undergraduate Student in Information and Technology, UCD. Responsibilities: Start-up team for an user interactive international dance web database
- 2014 - 2014 ■ Jiabin Wang, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Building and fixing a new roof mirror design, Integrating Motorized Rotation Stages into Khayyam
- 2013 - 2014 ■ Sunhao Cai, Undergraduate Student in Electrical and Computer Engineering, UCD. Responsibilities: Start-up team for an user interactive international dance web database
- 2013 - 2014 ■ William Field, Undergraduate Student in Information and Technology, UCD. Responsibilities: Start-up team for an user interactive international dance web database
- 2013 - 2014 ■ Kamal Preet, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Integrating Motorized Rotation Stages into Khayyam
- 2013 - 2014 ■ Steven Padilla, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Lab View Interface for Computerizing Khayyam
- 2013 ■ Toai-Nguyen Nguyen, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Assistance with Lab work
- 2013 ■ Christopher Vu, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Assisting with data reduction pipeline of Khayyam
- 2013 ■ Lance Huang, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Assistance with Lab work
- 2012 ■ Cory Simpson, Undergraduate student in Mechanical and Aerospace Engineering, UCD. Responsibilities: Computerized Khayyam and new roof mirror design and Assistance with Lab work
- 2012 - 2013 ■ Justin Knight, Undergraduate student in Engineering Applied Science and Mathematics, UCD. Responsibilities: Mathematical calculations of a Special Heterodyne Spectrometer and Assistance with Lab work
- 2011 - 2013 ■ Anthony Decker, Undergraduate student in Physics, UCD. Responsibilities: Assistance with building the lab and Lab work
- 2010 - 2012 ■ Fatemeh AfsharAhmadi, Undergraduate student in Physics, Zanjan University, Iran. Responsibilities: Investigating urban effects of Light pollution
- 2005 - 2006 ■ Khadijeh Najafi, Undergraduate student in Physics, Zanjan University, Iran. Responsibilities: Investigating urban effects of Light pollution
- 2005 - 2006

Technical Experience

Optical design, specification determination, hardware design, construction and integration, environmental testing, data acquisition, laboratory testing, instrument commissioning

Astronomy Observing Experience

- 2010 to Present
 - Lick Observatory, Mt. Hamilton, CA. Living on the site for about %80 of the time; Instrument construction, Telescope maintenance, coupling and integrating the instrument to the Telescope, Performing Observations almost on nightly bases.
- 2009 - 2010
 - Chabot Space and Science Center, Telescope Deck Volunteer.
- 2006, March 29
 - Total Solar Eclipse. Duration 4m 7s. Antalya, Turkey
- 2005 - 2006
 - Sky brightness Observation and Measurements at 3 various site, for Iran National Observatory study campaign, Iran. 4 weeks of observation throughout 6 weeks of traveling.
- 2004, June 8
 - Venus Transition event, Isfahan University, Iran. Group work for online broadcast of the event and studding contact data
- 2005
 - Telescope Assistance, Astronomy Course, Isfahan University, Iran. Twice a week for one semester.
- 2000 - 2004
 - Isfahan Astronomy Club, Observing events, Isfahan University, Iran. Minimum twice a month event.

Instrument Development

- 2009 to Present
 - Construction of a Tunable Special Heterodyne Spectrometer (SHS) at Lick Observatory, Mt. Hamilton. Design, development, fielding, environmental testing, data acquisition, data reduction pipeline, optimization.
- 2006
 - Design and Construction of a Dark Sky Metter Device. Isfahan Univ., Isfahan. This device was used in measuring sky brightness conditions at the four sites being tested as the location of the Iranian National Observatory.
- 2004
 - Design and Construction of a Model of the Oblateness of Planets, Isfahan Univ., Iran. This machine was able to show that whenever a flexible sphere rotates, its shape tends to change to a disk.
- 2001
 - Design and Construction of an Apparatus for illustrating and Measuring the Turbulence in Moving Fluids, Isfahan Univ., Iran.
- 1996 - 1998
 - Design and Construction of an Apparatus for illustrating and Measuring the effects of electromagnetism on plant's growth.
- 1998
 - Design and Construction of an Apparatus for illustrating the Solar System satellite eclipses.
- 1997
 - Design and Construction of an Roof Mirror for illustrating Optical laws of reflection

Refereed Publications

- 2015
 - **Hosseini, Sona**, Harris, Walter, "Khayyam, a Tunable Spatial Heterodyne Spectroscopy (SHS): Construction, Calibration and Visible Wavelength Observations", in preparation for Applied Optics
- 2015
 - **Hosseini, Sona**, Harris, Walter, "Comprehensive and Mathematical Revision of Tunable All Reflective Spatial Heterodyne Spectrometers", in preparation for Optics Express
- 2011
 - **Hosseini, Sona**, "Tunable Reflective Spatial Heterodyne Spectrometer: A Technique for High Resolving Power, Wide Field Of View Observation Of Diffuse Emission Line Sources", Ph.D. Dissertation, University of California Davis, July (2015) Link
- 2011
 - K. J. Meech, M. F. A'Hearn, et.al., "EPOXI: Comet 103P/Hartley 2 Observations from a Worldwide Campaign", The Astrophysical Journal Letters, 734:L1 (9pp), June 10 (2011)
- 2010
 - Kasting, James; Traub, W., et al. , "Exoplanet Characterization and the Search for Life", Astro2010: The Astronomy and Astrophysics Decadal Survey, Science White Papers, no. 151 (2011)
- 2010
 - **Hosseini, S. Sona** , "Tunable All Reflective Spatial Heterodyne Spectroscopy, a Technique for High Resolving Power Observation of Defused Emission Line Sources", Master's Thesis, University of California Davis, June (2010)
- 2006
 - Ben-Jaffel, Lotfi, **Hosseini, S. Sona** , "On the Existence of Energetic Atoms in the Upper Atmosphere of Exoplanet HD209458b", The Astrophysical Journal, Volume 709, Issue 2, pp. 1284-1296 (2010)
- 2004
 - **Hosseini, S. Sona** , "Theoretical and Experimental Investigation of Sky Brightness for Site Selection of Large Observatories", Master's Thesis, Zanjan University, Zanjan, Iran, July (2006)
 - **Hosseini, S. Sona** , "Investigation of Extra solar system planets: existance and formation", Bachelor's thesis, Isfahan Univ., Isfahan, Iran, July (2004)

Unrefereed Publications

- 2014
 - **Hosseini, Sona**, Harris, Walter, "Khayyam, a tunable spatial heterodyne spectroscopy (SHS): first calibration and visible wavelength observations", Proc. SPIE 9147, Ground-based and Airborne Instrumentation for Astronomy V, 91478L (July 8, 2014); doi:10.1117/12.2055862
- 2012
 - **Hosseini, Sona**, Harris, Walter, Corliss, Jason, " Khayyam: a tunable spatial heterodyne spectrometer for observing diffuse emission line targets ", Proc. SPIE 8446, Ground-based and Airborne Instrumentation for Astronomy IV, 84464K (October 5, 2012); doi:10.1117/12.925513;
- 2011
 - **Hosseini, Sona**, Harris, Walter, "Khayyam: a second generation tunable spatial heterodyne spectrometer for broadband observation of diffuse emission line targets", Proc. SPIE 8146, 814617 (2011)
- 2011
 - **Hosseini, S. Sona**, Corliss, Jason, Harris, Walter, "A Second Generation Tunable Spatial Heterodyne Spectrometer for Ground-Based Observations of Diffuse Emission Line Targets", Fourier Transform Spectroscopy (FTS) proceeding, (2011)
- 2010
 - **Hosseini, S. S.**, Gong, A., Ruth, D., Baldis, H., and Harris, W., "Tunable Spatial Heterodyne Spectroscopy (TSHS): A New Technique for Broadband Visible Interferometry", Optical and Infrared Interferometry II. Edited by Danchi, William C.; Delplancke, Françoise; Rajagopal, Jayadev K. Proceedings of the SPIE, Volume 7734, June (2010)

- 2007 ▪ **Hosseini, S. Sona**, Nasiri, S., "Measurement of Light Pollution for Observatory Sites", International Astronomical Union, Astronomical Society the Pacific Conference Series, v.370, pp.183-188 (2007)
- 2003 ▪ **Hosseini, S. Sona**, "Exoplanets", Sepehr Journal, Isfahan Univ., Isfahan, Iran, March (2003)
- 2004 ▪ **Hosseini, S. Sona**, "Development of a Dark Sky Brightness Meter", Sepehr Journal, Isfahan Univ., March, Iran (2004)
- 2001 ▪ **Hosseini, S. Sona** and Dadashi, Neda, "Investigating the Optical Refractive Index of 30 different Salt & Water Solutions", Sepehr Magazine, Isfahan Univ., Iran, March (2001)

Invited Talks

- 2014, Dec 14-19 ▪ American Geophysical Union (AGU) Fall meeting, San Francisco, CA
- 2014, Dec 8-11 ▪ Second International Conference on Arabs' and Muslims' History of Science, Sharjah, UAE
- 2014, Nov 12 ▪ Yale University, Astronomy Department, new Haven, CT
- 2014, Sep 29 ▪ Stanford University, Ginzton Laboratory, CA
- 2014, Sep 24 ▪ Lockheed Martin, Palo Alto, CA
- 2014, August 24 ▪ Association of Professors and Scholars of Iranian Heritage (APSIH)
- 2014, July 29 ▪ SETI, Mountain View, CA
- 2014, May 23 ▪ Making Waves Academy Middle School, 400 students 5th to 8th grade in the entire school, Richmond, CA
- 2014, March 7 ▪ Oakmont High School, Roseville, CA
- 2014, January 10 ▪ East Bay Astronomy, Menlo Park, CA
- 2013, September 14 ▪ Chabot Space Science Center, Oakland, CA
- 2013, August 19 ▪ JPL, Pasadena, CA
- 2013, August 20 ▪ JPL, Pasadena, CA
- 2013, August 5 ▪ Washington University in St. Louis, Missouri
- 2011, October 14 ▪ OSA/ IONS conference, Stanford University, CA
- 2011 to Present ▪ Lick Visitors Program, Mount Hamilton, CA. Various occasions on random schedule.
- 2010 - 2011 ▪ Applied Science high school visiting program, UC Davis, CA. Two occasions within 2 years.
- 2010 - 2012 ▪ SPIE/OSA Student Chapter, UC Davis, CA. Four occasions within 2 years.

Professional Services

- 2016 to Present ▪ Committee member, Roadmap to Ocean Words (ROW)
- 2016 to Present ▪ Committee member, SPIE Future Leaders Committee
- 2016 to Present ▪ Committee member, Division of Planetary Science Subcommittee on Professional Climate
- 2014 to 2015 ▪ Committee chair, SPIE Future Leaders Committee
- 2014 to 2015 ▪ Member of the International UNESCO Committee "Optics Under 40" for the International Year of Light 2015
- 2014, March ▪ Distributing Women in Optics Planner, Making Waves Academy Middle School, Richmond, CA
- 2012 to Present ▪ SPIE Future Leaders Committee member
- 2012 - Present ▪ SPIE publication Committee member
- 2014 ▪ Organizer, Jean-luc Doumont invited speaker, SPIE/OSA student chapter UC Davis, CA
- 2014, April ▪ Organizer of the Grad Student and Postdoc Social Event for Division for Planetary Sciences (DPS) meeting, Tucson, AZ
- 2013, October ▪ Organizer of the Grad Student and Postdoc Social Event for Division for Planetary Sciences (DPS) meeting, Denver, CO
- 2013, February ▪ Distributing Women in Optics Planner, Davis Senior High School, Davis, CA
- 2013, February ▪ Organizer of Zygo company Richmond branch student tour
- 2013, February ▪ Organizer of Student SPIE Photonics West tour to San Francisco, CA
- 2012 - 2014 ▪ AGU (American Geophysical Union) Planetary Sciences Session Student Survey Facilitator
- 2012, October ▪ Organizer of a Grad Student and Postdoc Social Event for Division for Planetary Sciences (DPS) meeting, Reno, NV
- 2012 to 2015 ▪ UC Davis Information Technology Committee member, Graduate Student Association Representative
- 2012 - 2013 ▪ Division for Planetary Sciences (DPS) Discoveries in Planetary Science Slide, translator to Farsi
- 2012 - 2014 ▪ UC Davis OSA (Optical Society of America) Chapter Special Event Officer, UC Davis, CA
- 2012 - 2014 ▪ UC Davis SPIE Chapter Special Event Officer, UC Davis, CA
- 2012, June 5 ▪ Organizer of the public viewing of the transit of Venus, SPIE/ OSA student chapter, UC Davis Campus, CA
- 2012, May 29 ▪ Graduate Student Panelist, "All about graduate program", UC Davis, CA
- 2012, May 19 ▪ Organizer of the Solar Annular Eclipse Viewing, SPIE/ OSA student chapter, Black Butte Lake, CA
- 2011 - 2012 ▪ Chair of the ad-hoc committee of UC Davis Graduate Student Association (GSA) Distinguished teaching award (DTA), UC Davis, CA
- 2012, May ▪ Organizer of the Applied Science Exhibition and Laser Maze event, UC Davis Picnic Day, UC Davis, CA
- 2012, April ▪ Organizer, Jean-luc Doumont invited speaker, SPIE/OSA student chapter UC Davis, CA
- 2012, February ▪ Distributing Women in Optics Planner, Davis Senior High School, Davis, CA
- 2012 to Present ▪ AGU Planetary Science Education Working Group member
- 2012 to 2015 ▪ AGU (American Geophysical Union) Planetary section student representative
- 2012, January 26 ▪ Organizer of the Optics Club tour, SPIE Photonics West, San Francisco, CA
- 2011 - 2013 ▪ UCD Graduate Student Association Representative at UCD Distinguished Teaching Awards Committee, UC Davis, CA
- 2011, May ▪ Organizer of the Department of Applied Science farewell lunch, UC Davis, CA
- 2011, April ▪ Organizer of the Applied Science Exhibition and Laser Maze event, UC Davis Picnic Day, CA
- 2011, April ▪ Organizer of the "Coolest Faculty member" contest at Applied Science Department, UC Davis, CA
- 2011 - 2012 ▪ UC Davis OSA (Optical Society of America) Chapter President, UC Davis, CA
- 2010 - 2012 ▪ UC Davis SPIE Chapter President, UC Davis, CA
- 2010 - 2012 ▪ Organizer of the Department of Applied Science Grad student and Postdocs seminar series, UC Davis, CA
- 2010 - 2012 ▪ UCD Graduate Student Association Representative at UCD Distinguished Teaching Awards Committee, UC Davis, CA
- 2010 - 2012 ▪ Graduate student's representer at Applied Science Department, UC Davis, CA

- 2012, December
 - 2010, October
 - 2010, April
 - 2009 - 2010
 - 2002 - 2004
 - 2001 - 2004
 - 2001 - 2004
 - 2004, June 8
 - 2001 - 2004
 - 2000, May
 - 1997, April
 - 1998
- Poster Session Chair, "P33C. Missions and Instruments Poster", AGU meeting, San Francisco, CA
 - Organizer of a Grad Student and Postdoc Social Event for Division for Planetary Sciences (DPS) meeting, Pasadena, CA
 - Organizer of the Applied Science Exhibition and Laser Maze event, UC Davis Picnic Day, CA
 - Chabot Space and Science Center volunteer, Observatory deck, Oakland, CA
 - President of SAMPAD club (SAMPAD alumni at college, SAMPAD: National Organization for Development of Exceptional Talents: NODET, also known as SAMPAD), Isfahan, Iran
 - Organizer of SAMPAD Club (SAMPAD alumni club), Isfahan, Iran
 - Organizer of student observing events and star parties, Isfahan University, Iran
 - Observer and facilitator of the Venus Transit group member, Isfahan. Univ., Isfahan, Iran
 - Department office student manager, Department of Physics, Isfahan. Univ., Isfahan, Iran
 - Organizer of "First Scholar of Astronomy" Seminar, Isfahan Univ., Isfahan
 - Organizer of "First Scholar of Astronomy" Seminar High School Students Seminar on Physics, Zanjan, Iran
 - Science Head member of the First High School Magazine in City, Zanjan, Iran

**Professional
Membership**

- 2011 to Present
 - 2010 to Present
 - 2009 - 2011
 - 2008 to Present
 - 2008 to Present
 - 2009 to Present
 - 2009 to Present
 - 1997 - 2000
 - 2000 - 2006
 - 2002 - 2006
 - 2002 - 2006
 - 2004 - 2006
- Optical Society of America-OSA
 - American Astronomical Society-AAS
 - Chabot Space and Science Center, CA
 - American Geophysical Union-AGU
 - Division for Planetary Sciences of American Astronomical Society-DPS
 - Women in Astronomy and Planetary Sciences
 - The International Society for Optical Engineering-SPIE
 - National Organization for Development of Exceptional Talents: NODET, also known as SAMPAD
 - Iranian Physics Society
 - Iranian Entrepreneurs
 - Isfahan Entrepreneurs
 - Iranian Inventors

**Media
Coverage**

- TBA
 - 2014, winter
 - 2014, Dec 18
 - 2014, September 2
 - 2014, August 24
 - 2014, August 13
 - 2014, June
 - 2014, June
 - 2013, April
 - 2005, December
 - 2003, May
 - 2002, May
- Documentary movie about my project and life working at Lick Observatory, Mt. Hamilton, CA
 - [Lick Observatory News Journal, winter 2014](#)
 - الاتحاد , Alettehad Newspaper [article](#)
 - Space.io9, "[Where Will Researchers Test Telescope Equipment In The Future?](#)"
 - University of Berkeley Newspaper, "[Facing a waning future](#)"
 - Radio interview, AssociatiAlettehad Newspaper on of Professors and Scholars of Iranian Heritage (APSIH)
 - SETI Institute YouTube channel, "[Khayyam: A Tunable Spatial Heterodyne Spectrometer](#)"
 - AGU membership [highlight](#)
 - Astronomy Magazine, Japan, "The astronomer on the mountain chasing comets"
 - "[Planetarium](#)", Discovery channel host clip sample,
 - TV interview, city channel, Zanjan
 - Collage newspaper interview, Isfahan University newspaper