

Nader Haghighipour

(nader@ifa.hawaii.edu)

Education

University of Missouri-Columbia Physics (Planetary Dynamics) PhD (1999)

Scientific Employment

2021 – present : Founder & Director (*Institute for Advanced Planetary Astrophysics*)
2021 – present : Senior Scientist (*Planetary Science Institute*)
2016 – present : Professor (*Institute for Astronomy, University of Hawaii*)
2010 – 2016 : Associate Professor (*Institute for Astronomy, University of Hawaii*)
2004 – 2010 : Assistant Professor (*Institute for Astronomy, University of Hawaii*)
2001 – 2004 : NASA Origin/NASA Astrobiology Fellow (*Carnegie Institute*)
2000 – 2001 : Postdoctoral Fellow (*Dearborn Observatory, Northwestern University*)
1999 – 2000 : Visiting Assistant Professor (*Dept. Physics & Astronomy, UC-Irvine*)

Awards and Recognitions

2018 : Yuval Ne’eman Distinguish Lecture Award (Tel Aviv University, Israel)
2017 : Asteroid 10688-Haghighipour
2013 : Featured on Time Magazine (Video)
2012 : Humboldt Senior Researcher Fellowship Award (Humboldt Foundation, Germany)

Committees and Community Service

2018-present Advisory board member: Oxford Research Encyclopedia of Planetary Science
2017-present Editorial board member: Astrobiology Journal
2015-present Founder and Organizer of the *TESS* Circumbinary Planets Working Group
2019-2025 Vice-President of IUGG, Commission on Planetary Science
2016-2018 Editorial board member: Oxford Research Encyclopedia of Planetary Science
2015-2018 President of IAU Division F (Planetary Sciences and Astrobiology)
2012-2018 Member of the Steering Committee of the *Kepler* Circumbinary Working Group
2012-2016 Member of the Steering Committee of the *Kepler* Habitable Zone Working Group
2012-2015 Vice President of IAU Division F (Planetary Systems and Bioastronomy)
2012-2015 Member of Organizing Committee of IAU Commission 51 (Bioastronomy)
2012-2015 Member of Organizing Committee of IAU Commission 7 (Celestial Mechanics)
2010-2012 Committee Member of the AAS Division on Dynamical Astronomy

Research Experience and Interest

Solar System Dynamics and Formation

-Formation of giant and terrestrial planets, planetesimals formation, origin of Earth’s water
-Origin and dynamics of asteroids, NEOs, Trojans, Main Belt Comets, Irregular Satellites

Extrasolar Planets

-Planet formation, Planetary dynamics, and planet migration
-Planets in and around binary star systems (detection, formation, dynamics, habitability)
-Detection of super-Earths and habitable planets around low-mass stars
-Astrobiology, Habitability, and Habitable Zone

Grant Proposals

Funded Research Grants

Agency : NASA XRP (Megan Ansdell, 202-774-8476, Megan.C.Ansdell@nasa.gov)
Title : Detection and Characterization of Circumbinary Planets Around TESS
Eclipsing Binaries
Amount : \$465,583.00 (PI: **Haghighipour**, CoIs: Kostov, Orosz)
Period : 10/01/2023-12/31/2025
FTE : 2.5/12

Agency : NSF AST/AAG (Martin Still, (703) 292-4290, mstill@nsf.gov)
Title : Toward a Realistic Model of the Formation of Terrestrial Planets and Water Delivery
Amount : \$301,160.00 (PI: **Haghighipour**, Coll: Maindl, Schaefer, Burger)
Period : 10/01/2021-09/30/2025
FTE : 4/12

Agency : NASA TESS GI Cycle 4 (Patricia Boyd, 301-286-2550, patricia.boyd@nasa.gov)
Title : Discovering Circumbinary Planets with TESS
Amount : \$50,000.00 (PI: Kostov, CoI: **Haghighipour**, Welsh)
Period : 10/01/2021-09/30/2022
FTE : 0.5/12

Agency : NASA XRP (Melissa Morris, 202-774-8476, melissa.a.morris@nasa.gov)
Title : Dynamical Evolution of Circumbinary Disks and Embedded Planets
Amount : \$404,849.00 (PI: **Haghighipour**, Collaborators: Kley, Masset)
Period : 04/01/2018-03/31/2022
FTE : 4/12

Agency : NSF REU Program (Matthew Benacquista, 703-292-8535, mbenacqu@nsf.gov)
Title : REU Site: Astronomy in Hawaii
Amount : \$ 394,311 (PI: **Haghighipour**, Co-PI: Magnier)
Period : 04/01/2016-31/03/2022
FTE : 1/12

Agency : NASA TESS GI Cycle 3 (Patricia Boyd, 301-286-2550, patricia.boyd@nasa.gov)
Title : Discovering Circumbinary Planets with TESS
Amount : \$50,000.00 (PI: Kostov, CoI: **Haghighipour**, Welsh)
Period : 10/01/2020-09/30/2021
FTE : 0.5/12

Agency : NASA TESS GI Cycle 2 (Patricia Boyd, 301-286-2550, patricia.boyd@nasa.gov)
Title : Discovering Circumbinary Planets with TESS
Amount : \$50,000.00 (PI: Kostov, CoI: **Haghighipour**, Welsh)
Period : 10/01/2019-09/30/2021
FTE : 0.5/12

Agency : NASA PAST (Kelly Fast, 202-358-0768, Kelly.E.Fast@nasa.gov)
Title : A Search for New Main Belt Comets with Recurrent Activity
Amount : \$221,000.00 (PI: **Haghighipour**, Scientific PI: Hsieh, Coll: Magnier, Denneau)
Period : 10/01/2013-12/31/2016
FTE : 1.5/12

Agency : European Corporation in Science and Technology (COST)
Title : Origins and evolution of life on Earth and in the Universe
Amount : \$150,000.00 (PI: Muriel Gargaud, CoI: **Haghighipour**, et al.)
Period : 10/01/2013-09/30/2018

Agency : NASA/ADAP (Douglas M. Hudgins, 202-358-0988, douglas.m.hudgins@nasa.gov)
Title : Searching for Circumprimary and Circumbinary in Kepler Data
Amount : \$336,476.00 (PI: **Haghighipour**, CoI: Ford, Agol, Collaborators: Welsh, Carter)
Period : 01/01/2013-12/31/2015
FTE : 1.5/12

Agency : NASA/Origins (Henry Throop, 202-358-1364, henry.throop@nasa.gov)
Title : Contribution of Planetesimals to the Compositions of Giant Planets
Amount : \$110,000.00 (PI: **Haghighipour**, CoIs: Podolak, Helled)
Period : 10/01/2012-09/30/2014
FTE : 2.5/12

Agency : Hubble Space Telescope (Cycle 19)
Title : Constraining Planet Formation in the Unique Evolved Binary HR 637 (GJ 86)
Amount : \$43,402.00 (PI: **Haghighipour**, CoIs: Bond, Barstow, Burleigh, Farihi, Holberg)
Period : 01/01/2012-12/31/2013
FTE : 1/12

Agency : NASA/Origins (Henry Throop, 202-358-1364, henry.throop@nasa.gov)
Title : Discovery and Characterization of Kepler Circumbinary Planets
Amount : \$307,877.00 (PI: Welsh, CoI: Orosz, Collaborator: **Haghighipour**, Fabrycky)
Period : 01/01/2013-12/31/2015
FTE : 0/12

Agency : NASA/Cosmochemistry
Title : Origin, Thermal History, and Impact Records of Meteorites and Their Parent Asteroids
Amount : \$703,370.00 (PI: Scott, CoIs: **Haghighipour**, Bottke, Taylor)
Period : 04/15/2012-04/15/2015
FTE : 0/12

Agency : NASA/EXOB
Title : From Planetesimals to Terrestrial Planets: Formation of Habitable Planets in Binary Star Systems
Amount : \$219,835.00 (PI: **Haghighipour**, Co-I: Chambers, Kortenkamp)
Period : 06/22/2009-06/21/2013
FTE : 3/12

Agency : NASA Astrobiology Cooperative Agreement Notice
Title : Origin of Earth's Oceans
Amount : \$7,285,429.00 (PI: Karen Meech, Co-I: **Haghighipour**, et al.)
Period : 10/01/2008-09/30/2013
FTE : 1/12

Agency : NASA/Chosmochemistry Program
Title : Origin, Thermal History, and Impact Record of Meteorites and Their Parent Asteroids
Amount : \$819,950.00 (PI: Ed Scott, Co-I: **Haghighipour**, Taylor)
Period : 01/01/2009-12/31/2013
FTE : 2/12

Agency : Spitzer Space Telescope
Title : Binary Debris Disks: Follow-on Observations of Spitzer Discoveries (PI: Stansberry, CoIs: **Haghighipour**, Kortenkamp, Trilling, Jensen, Mathieu)
Amount : \$50,000
Period : 06/01/2008-05/31/2009

Agency : National Science Foundation
Title : Acquisition of Equipment for an Interdisciplinary Research Center at the Planetary Science Institute
Amount : \$183,772.00 (PI: Steve Kortenkamp, Co-I: **Haghighipour** et al.)
Period : 01/01/2005-12/31/2007

Agency : NASA/Origins of Solar System
Title : Mixing and Transport in the Solar Nebula
Amount : \$180,000.00 (PI: Alan Boss, CoI: **Haghighipour**)
Period : 09/01/2001-03/15/2004
FTE : 12/12

Funded Grants for Instrumentation and/or Conferences

Agency : NSF (Matthew Benacquista, 703-292-8535, mbenacqu@nsf.gov)
Title : A Meeting of the PIs of the NSF REU Sites in Astronomy
Amount : \$49,917.00 (PI: **Haghighipour**, Coll: Charles Liu)
Period : 10/26/2018-10/28/2021

Agency : NASA/TWSC (Mary Voytek, 202-358-0879, sara@nasa.gov)
Title : Astrobiology and Habitability in Extreme Planetary Systems
Amount : \$19,500.00 (PI: **Haghighipour**, CoIs: Rasio, Marcy, Sigurdsson)
Period : 11/29/2015-12/04/2015

Agency : NASA Astrobiology Institute
Title : IAU Symposium 293: Formation, Detection, and Characterization of Extrasolar Habitable Planets
Amount : \$20,000.00 (PI: **Haghighipour**)
Period : 08/01/2012-08/30/2012

Agency : NASA Astrobiology Institute
Title : Habitability of Extreme Planetary Systems
Amount : \$10,000.00 (PI: **Haghighipour**)
Period : 09/01/2011-09/30/2011

Agency : NASA Astrobiology Institute
Title : Habitability of Super-Earths
Amount : \$20,000.00 (PI: **Haghighipour**)
Period : 06/01/2009-06/30/2009

Agency : NASA Astrobiology Institute/Director's Discretionary Funds
Title : Acquisition of Computational Equipment for Interdisciplinary Research on the Origin of Main Belt Comets and the Formation of Habitable Planets
Amount : \$10,000.00 (PI: **Haghighipour**, Co-PI: Meech, Jewitt, Scott, Boss, Agol)
Period : 07/01/2008-10/31/2009

Agency : NASA Astrobiology Institute/Director's Discretionary Funds
Title : Workshop on the Habitability of Super-Earth Planets
Amount : \$17,000.00 (PI: Steinn Sigurdsson, Co-I: **Haghighipour**)
Period : 07/01/2008-10/31/2008

Agency : West Chester University
Title : The Dynamical Evolution of Planetary Systems
Amount : \$1852.00 (PI: Jeffrey Sudol, CoI: **Haghighipour**)

Agency : NASA Astrobiology Institute
Title : Hot-Earths: Formation, Detection, and Structure
Amount : \$4,000 (PI: **Haghighipour**, CoI: Gaidos)
Period : 05/01/2007 – 05/31/2007 (Organizing a special session on Hot Earths at the Summer 2007 Meeting of AAS in Honolulu)

Agency : NASA Astrobiology Institute
Title : Origin of Water on Terrestrial Planets
Amount : \$20,000 (PI: Meech, Co-I: **Haghighipour**, Mottl)
Period : 07/01/2007 – 06/30/2008

Agency : Fund for Astrophysics Research (FAR), Inc.
Theodore Dunham, Jr. Grants for Research in Astrophysics
Title : Computational Studies of the Dynamics of the Solar System and
The Formation of Extrasolar Habitable Planets
Amount : \$3,000 (PI: **Haghighipour**)
Period : 01/01/2007-12/31/2007

Agency : NASA Astrobiology Institute
Title : Formation and Detection of Habitable Planets
Amount : \$4,000 (PI: **Haghighipour**)

Agency : NASA Astrobiology Institute
Title : Planets in Binary Star Systems
Amount : \$4,071 (PI: **Haghighipour**)

Publications

Books

Encyclopedia of Astrobiology: Volume on Extrasolar Planets
N. Haghighipour, 2015, Springer, ISBN: 978-3-662-44186-2

Planetary Exploration and Science: Recent Results and Advances,
S. Jin, **N. Haghighipour**, W-H. Ip, 2015, Springer, ISBN: 978-3-662-45051-2 (Printed Version),
ISBN: 978-3-662-45052-9 (Online Version)

Formation, Detection, and Characterization of Habitable Extrasolar Planets
Haghighipour, N., 2014, Cambridge Univ. Press, ISSN: 1743-9213, ISBN: 978-11-070-3382-5

Planets in Binary Star Systems
Haghighipour, N., 2010, Springer, ISBN: 978-90-481-8686-0

Book Chapters

Thebault, P., and **Haghighipour, N.**, 2015, *Planet Formation in Binaries*, in *Planetary Exploration and Science: Recent Advances and Applications*, eds. S. Jin, **N. Haghighipour**, W-H. Ip, Springer, Netherlands, pp 309-340.

Haghighipour, N., Dvorak, R., and Pilat-Lohinger, E., 2010, *Habitable Planets in Binary Star Systems*, in: *Planets in Binary Star Systems*, ed. **N. Haghighipour**, Springer, Netherlands, pp 285-327.

Guillermo, T., **Haghighipour, N.** et al., 2008, *Radial Velocity*, In: *Exoplanet Community Report*, eds. P.R. Lawson, W.A. Traub, and S.C. Unwin, pp 177-192.

Haghighipour, N., 2008, *Formation, Dynamical Evolution, and Habitability of Planets In Binary Star Systems*, In: *Exoplanets: Detection, Formation, Properties, Habitability*, ed. J. W. Mason, Parix Publishing Ltd., Chichester, UK, pp 223-257.

Popular Articles

Haghighipour, N., 2019, *Habitable planets do exist, need not be Earth replica*, Star-Advertiser, Honolulu, February 1, 2019

Haghighipour, N., 2014, *Planet Formation in and Around Binary Stars*, The star Formation Newsletter, **260**, 12

Haghighipour, N., 2012, *The First Double-Double*, Na Kilo Hoku (The Newsletter of the Institute for Astronomy), **44**, 1

Haghighipour, N., 2012, *Formation, Detection, and Characterization of Habitable Extrasolar Planets*, *Inquiries of Heaven*, IAU Publication, Beijing, China, August 27, 2012

Haghighipour, N., 2010, *Planet Detected in Habitable Zone of Nearby Star*, Na Kilo Hoku (The Newsletter of the Institute for Astronomy), **35**, 2

Haghighipour, N., Jewitt, D., 2008, *The Origin of Main Belt Comets*, Na Kilo Hoku (The Newsletter of the Institute for Astronomy), **28**, 2

Haghighipour, N., 2008, *Binary Stars with habitable Planets*, American Scientist, **96**, 294

Haghighipour, N., 2005, *150 New Planets Create 150 Brand-New Challenges*, Hawaii Tribune Herald, Page D4

Refereed Articles

Haghighipour, N. and Andrew, M., 2025, *Secular Resonances in Planet-Hosting Binary Stars. II. Application to Terrestrial Planet Formation*, The Astrophysical Journal, **988**, id.231

Haghighipour, N. and Andrew, M., 2025, *Secular Resonances in Planet-Hosting Binary Stars. I. General Theory*, The Astronomical Journal, **170**, id.117

Haghighipour, N. and Darriba, L. A., 2025, *Runaway Growth of Planetesimal Revisited: Presenting Criteria Required for Realistic Modeling of Planetesimal Growth*, International Journal of Astrobiology, **24**, Issue c12, 1

Haghighipour, N., Podolak, M., and Podolak, E., 2024, *Detailed Calculations of the Efficiency of Planetesimal Accretion in the Core-accretion Model. III. The Contribution of Planetesimals beyond Saturn*, The Astrophysical Journal, **977**, Issue 1, id.124

Haghighipour, N., Podolak, M., and Podolak, E., 2022, *Detailed Calculations of the Efficiency of Planetesimal Accretion in the Core-accretion Model. II. The Effect of Saturn*, The Astrophysical Journal, **941**, Issue 2, id.117

Haghighipour, N., and Maindl, T., 2022, *Building Terrestrial Planets: Why it is not possible to get around the complications of simulating collisions accurately by using the perfect-merging scenario*, The Astrophysical Journal, **926**, id.197

Crespi, S., Dobbs-Dixon, I., Georgakarakos, N. **Haghighipour, N.**, Maindl, T. I., Schäfer, C. M., Winter, P. M., 2021, *Protoplanet Collisions: Statistical Properties of Ejecta*, Monthly Notices of the Royal Astronomical Society, **508**, 6013

Kostov, V. B., Powell, B. P. Orosz, J. A, et al. (Including **Haghighipour, N.**), 2021, *TIC 172900988: A Transiting Circumbinary Planet Detected in One Sector of TESS Data*, The Astronomical Journal, **162**, id.234

Sudol, J. J., and **Haghighipour, N.**, 2021, *On the Detection of Habitable Trojan Planets in the Kepler Circumbinary Systems*, The Astronomical Journal, **161**, id.223

Yadavalli, S. K., Quarles, B., Li, G., and **Haghighipour, N.**, 2020, *Effects of Flux Variation on the Surface Temperatures of Earth-analog Circumbinary Planets*, Monthly Notices of the Royal Astronomical Society, **499**, 1506

Strøm, P. A., Bodewits, D., Knight, M. M., Kiefer, F., Jones, G. H., Kral, Q., Matrà, L., Bodman, E., Capria, M. T., Cleeves, I., Fitzsimmons, A., **Haghighipour, N.**, Harrison, J. H. D., et al., 2020, *Exocomets from a Solar System Perspective*, Publications of the Astronomical Society of Pacific, **132**, id.101001

Kostov, V. B., Welsh, W., **Haghighipour, N.**, et al., 2020, *Multiple Transits during a Single Conjunction: Identifying Transiting Circumbinary Planetary Candidates from TESS*, Astronomical Journal, **160**, id.174

Podolak, M., **Haghighipour, N.**, Bodenheimer, P., Helled, R., and Podolak, E., 2020, *Detailed Calculations of the Efficiency of Planetesimal Accretion in the Core-Accretion Model*, Astrophysical Journal, **899**, id.45

Kostov, V. B., Orosz, J., Feinstein, A. D., Welsh, W., Cukier, W., **Haghighipour, N.**, et al., 2020, *TOI-1388: TESS' First Transiting Circumbinary Planet*, The Astronomical Journal, **159**, id.253

Quarles, B., Li, G., Kostov, V. & **Haghighipour, N.**, 2020, *Orbital Stability of Circumstellar Planets in Binary Systems*, The Astronomical Journal, **159**, id.80

Windemuth, D., Agol, E., Carter, J., Ford, E. B., **Haghighipour, N.**, Orosz, J. A., and Welsh, W. F., 2019, *An Automated Method to Detect Transiting Circumbinary Planets*, Monthly Notices of the Royal Astronomical Society, **490**, 1313

Orosz, J. A., Welsh, W. F., **Haghighipour, N.**, et al. 2019, *Discovery of a Third Transiting Planet in the Kepler-47 Circumbinary System*, The Astronomical Journal, **157**, Article id. 174

Holler, B. J., Milam, S. N., Bauer, J. M., including **Haghighipour, N.**, 2018, *Solar system science with the Wide-Field InfraRed Survey Telescope (WFIRST)*, Journal of Astronomical Telescopes, Instruments, and Systems, **4**, Article id.034003.

Quarles, B., Satyal, S., Kostov, V., Kaib, N., and **Haghighipour, N.**, 2018, *Stability Limits of Circumbinary Planets: Is there a Pile-up in Kepler CBPs?*, Astrophysical Journal, **856**, Article id.150

Haghighipour, N., Maindl, T. I., Schaefer, C. M., and Wandel, O. J. 2018, *Triggering the Activation of Main Belt Comets: The Effect of Porosity*, Astrophysical Journal, **855**, Article id.60

Haghighipour, N., Maindl, T. I., Schaefer, C., Speith, R., and Dvorak R., 2016, *Activation of Main Belt Comets*, Astrophysical Journal, **830**, Article id. 22

Kane, S. R., Hill, M. L., Kasting, J. F., Kopparapu, R. K., Quintana, E. V., Barclay, T., Batalha, N. M., Borucki, W. J., Ciardi, D. R., **Haghighipour, N.**, Hinkel, N. R., Kaltenegger, L., Selsis, F., Torres, G., 2016, *A Catalog of Kepler Habitable Zone Exoplanet Candidates*, *Astrophysical Journal*, **830**, Article id. 1

Hsieh, H. H., and **Haghighipour, N.**, 2016, *Potential Jupiter Family Comet Contamination of the Main Asteroid Belt*, *Icarus*, **277**, 19

Kostov, V. B., Orosz, J. A., Welsh, W. F., Doyle, L. R., Fabrycky, D. C., **Haghighipour, N.**, et al., 2016, *Kepler 1647: The Largest and Longest-Period Kepler Transiting Circumbinary Planet*, *Astrophysical Journal*, **827**, Article id. 86

Haghighipour, N. and Winter, O. C., 2016, *Formation of Terrestrial Planets in Disk with Different Surface Density Profiles*, *Celestial Mechanics and Dynamical Astronomy*, **124**, 235

Werner, J., Maindl, T. I., **Haghighipour, N.**, Schäfer, C., Speith, R. and Kley, W., 2016, *The Effect of the Heat of Impact on the Activation of Main Belt Comets*, LPI Contribution No. 1921, id.6051

Kley W., and **Haghighipour, N.**, 2015, *Evolution of circumbinary Planets Around Eccentric Binaries: The case of Kepler-34*, *Astronomy and Astrophysics*, **581**, Article id. A20

Welsh, W. F., Orosz, J. A., Short, D. R., **Haghighipour, N.**, et al., 2015, *Kepler 453 b – The 10th Kepler Transiting Circumbinary Planet*, *Astrophysical Journal*, **809**, Article id. 26

Maindl, T. I., **Haghighipour, N.**, Schaefer, C., Speith, R., and Dvorak, R., 2015, *Triggering the Activity of Main Belt Comets*, LPI Contribution, **1832**, 1032

Hsieh, H. H., Hainaut, O., Novaković, B., Bolin, B., Denneau, L., Fitzsimmons, A., **Haghighipour, N.**, et al., 2015, *Sublimation-Driven Activity in Main-Belt Comet 313p/Gibbs*, *The Astrophysical Journal Letters*, **800**, article id. L16

Hinse, T. C., **Haghighipour, N.**, Kostov, V. B., and Goździewski, K., 2015, *Predicting a third planet in the Kepler-47 circumbinary system*, *Astrophysical Journal*, **799**, Article id. 88

Haghighipour, N., 2015, *EXOPLANETS*, *International Journal of Astrobiology*, **14**, 143

Schunová, E., Jedicke, R., Walsh, K. J., Granvik, M., Wainscoat, R. J., and **Haghighipour, N.**, 2014, *Properties and evolution of NEO families created by tidal disruption at Earth*, *Icarus*, **238**, 156

Oshagh, M., Santos, N. C., Ehrenreich, D., **Haghighipour, N.**, Figueira, P., Santerne, A., and Montalto, M., 2014, *Impact of occultations of stellar active regions on transmission spectra. Can occultation of a plage mimic the signature of a blue sky?*, *Astronomy and Astrophysics*, **568**, article id. A99

Kley, W., and **Haghighipour, N.**, 2014, *Modeling Circumbinary Planets: The Case of Kepler-38*, *Astronomy and Astrophysics*, **564**, article id. A72

Mueller, T., and **Haghighipour, N.**, 2014, *Calculating the Habitable Zone of Multiple Star Systems* (<http://astro.twam.info/hz>), *Astrophysical Journal*, **782**, article id. 26

Izidoro, A., **Haghighipour, N.**, Winter, O. C., and Tsuchida, M., 2014, *Terrestrial Planet Formation in Protoplanetary Disk With a Local Mass Depletion: A Successful Scenario for the Formation of Mars*, *Astrophysical Journal*, **782**, article id. 31

Haghighipour, N., Capen, S., and Hinse, T. C., 2013, *Detection of Earth-mass and Super-Earth Trojan Planets Using Transit Timing Variation Method*, *Celestial Mechanics and Dynamical Astronomy*, **117**, 75

Haghighipour, N., and Kaltenegger, L., 2013, *Calculating the Habitable Zone of Binary Star Systems II: P-Type Binaries*, *Astrophysical Journal*, **777**, article id. 166

Kaltenegger, L., and **Haghighipour, N.**, 2013, *Calculating the Habitable Zone of Binary Star Systems I: S-Type Binaries*, *Astrophysical Journal*, **777**, article id. 165

Oshagh, M., Bouè, G., Figueira, P., Santos, N. C., and **Haghighipour, N.**, 2013, *Probing the effect of gravitational microlensing on the measurements of the Rossiter-McLaughlin effect*, *Astronomy & Astrophysics*, **558**, article id. A65

Oshagh, M., Santos, N. C., Boisse, I., Bouè, G., Montalto, M., Dumusque, X., and **Haghighipour, N.**, 2013, *The effect of stellar spots on the high precision transit light curve*, *Astronomy & Astrophysics*, **556**, article id. A19.

Hsieh, H., Kaluna, H. M., Novakovic, B., Yang, B., **Haghighipour, N.**, et al., 2013, *Main-Belt Comet P/2012 T1 (PANSTARRS)*, *Astrophysical Journal Letters*, **771**, article id. L1

Haghighipour, N., 2013, *The Formation and Dynamics of Super-Earth Planets*, *Annual Review of Earth and Planetary Science*, **41**, 469-495

Farihi, J., Bond, H. E., DuFour, P., **Haghighipour, N.**, Schaefer, G. H., Holberg, J. B., Barstow, M. A., Burleigh, M. R., 2013, *Orbital and Evolutionary Constraints on the Planet Hosting Binary GJ 86 from the Hubble Space Telescope*, *Monthly Notices of the Royal Astronomical Society*, **430**, 652-660

Izidoro, A., Torres, K. S., Winter, O. C., and **Haghighipour, N.**, 2013, *A Compound Model for the Origin of Earth's Water*, *Astrophysical Journal*, **767**, article id. 54

Eggl, S., **Haghighipour, N.**, Pilat-Lohinger, E., 2013, *Detectability of Earth-Like Planets in the Circumstellar Habitable Zone of Binary Star Systems with Sun-Like Components*, *Astrophysical Journal*, **764**, article id. 130

Eggl, S., Pilat-Lohinger, E., Funk, B., Georgakarakos, N., and **Haghighipour, N.**, 2013, *Circumstellar Habitable Zones of Binary Star Systems in the Solar Neighborhood*, Monthly Notices of the Royal Astronomical Society, **428**, 3104-3113

Oshagh, M., Boisse, I., Boue, G., Montalto, M., Santos, N. C., Bonfils, X., and **Haghighipour, N.**, 2013, *SOAP-T: A Tool to Study the Light-Curve and Radial Velocity of a System With a Transiting Planet and a Rotating Spotted Star*, Astronomy & Astrophysics, **549**, id.A35.

Orosz, J. A., Welsh, W. F., Carter, J. A., Fabrycky, D. C., Cochran, W. D., Endl, M., Ford, E. B., **Haghighipour, N.**, et al., 2012, *VizieR Online Data Catalog: Kepler-47 transits*, VizieR On-line Data Catalog

Orosz, J. A., Welsh, W. F., Carter, J. A., Fabrycky, D. C., Cochran, W. D., Endl, M., Ford, E. B., **Haghighipour, N.**, et al., 2012, *Kepler47: A Transiting Circumbinary Multi-Planet System*, Science, **337**, 1511

Orosz, J. A., et al. (including **Haghighipour, N.**), 2012, *The Neptune-sized Circumbinary Planet Kepler 38b*, Astrophysical Journal, **758**, article id. 87

Haghighipour, N., Butler, R. P., Rivera, E. J., Henry, G. W., and Vogt, S. S., 2012, *The Lick-Carnegie Survey: A New Two-Planet System Around the Star HD 207832*, Astrophysical Journal, **756**, article id. 91

Vogt, S. S., Butler, R. P., and **Haghighipour, N.**, 2012, *GJ 581 update: Additional Evidence for a Super-Earth in the Habitable Zone*, Astronomische Nachrichten, **333**, 561

Sudol, J. J., **Haghighipour, N.**, 2012, *High-Mass Four Planet Models for HR 8799: Constraining the Orbital Inclination and Age of the System*, Astrophysical Journal, **755**, article id. 38

Hinse, T. C., Gozdziewski, K., Lee, J. W., **Haghighipour, N.**, Lee, C.-U., 2012, *The proposed Quadruple System SZ Herculis: Revised LITE Model and Orbital Studies*, Astronomical Journal, **144**, article id. 34

Gerlach, E. and **Haghighipour, N.**, 2012, *Can GJ 876 Host Four Planets in Resonance?*, Celes. Mech. Dynamic. Astron., **113**, 35

Gozdziewski, K., Nasiroglu, I., Slowikowska, A., Beuermann, K., Kanbach, G., Gauza, B., Maciejewski, A. J., Schwarz, R., Schwöpe, A. D., Hinse, T. C., **Haghighipour, N.**, Burwitz, V., Slonina, M., and Rau, A., 2012, *On the HU Aquarii planetary system hypothesis*, Monthly Notices of the Royal Astronomical Society, **425**, 930

Anglada-Escudé, G., Arriagada, P., Vogt, S. S., Rivera, E. J., Butler, R. P., Crane, J. D., Shectman, S. A., Thompson, I. B., Minniti, D., **Haghighipour, N.**, Carter, B. D., Tinney, C. G., Wittenmyer, R. A., Bailey, J. A., O'Toole, S. J., Jones, H. R. A., and Jenkins, J. S., 2012, *A planetary system around the nearby M dwarf GJ 667C with at least one super-Earth in its habitable zone*, Astrophysical Journal Letters, **751**, article id. L16

Haghighipour, N. and Scott, E. R. D., 2012 *On The Effect of Giant Planets on the Scattering of Parent Bodies of Iron Meteorite from the Terrestrial Planet Region into the Asteroid Belt: A Concept Study*, *Astrophysical Journal*, **749**, article id.113

Hsieh, H., Yang, B., **Haghighipour, N.** et al., 2012, *Discovery of Main Belt Comet P/2006 VW₁₃₉ by PAN-STARRS1*, *Astrophysical Journal Letters*, **748**, article id. L15

Hsieh, H., Yang, B. and **Haghighipour, N.**, et al. 2012, *The Observational and Dynamical Characterization of Main-Belt Comet P/2010 R2 (La Sagra)*, *Astronomical Journal*, **143**, article id. 104

Hinse, T. C., Lee, J. W., Gozdziewski, K., **Haghighipour, N.**, Lee, C.-U., and Scullion, E. M., 2012, *New Light-Travel Time Models and Orbital Stability Study of the Proposed Planetary System HU Aquarii*, *Monthly Notices of the Royal Astronomical Society*, **420**, 3609

Oshagh, M., Boué, G., **Haghighipour, N.**, Montalto, M., Figueira, P. and Santos, N. C., 2012 *Transit Timing Measurements Using the Model-Independent Barycenter Method: Application to LHS 6343 System*, *Astronomy & Astrophysics*, **540**, article id. A62

Hsieh, H., Yang, B., **Haghighipour, N.**, 2012, *Optical and Dynamical Characterization of Peculiar Main-Belt Object (596) Scheila*, *Astrophysical Journal*, **744**, article id. 9

Haghighipour, N., 2011, *Habitable extrasolar planets: from theory to observations*, *Boletín de la Asociación Argentina de Astronomía*, **54**, 29

Haghighipour, N., Kirste, S., 2011, *On the Detection of (Habitable) Super-Earths Around Low Mass Stars Using Kepler and Transit Timing Variation Method*, *Celes. Mech. Dynamic. Astron.*, **111**, 267

Haghighipour, N., 2011, *Super-Earths: A New Class of Planetary Bodies*, *Journal of Contemporary Physics*, **52**, 403

Schwarz, R., **Haghighipour, N.**, Eggl, S., Pilat-Lohinger, E., Funk, B., 2011, *Prospects of the Detection of Circumbinary Planets With Kepler and CoRoT Using the Variations of Eclipse Timing*, *Monthly Notices of the Royal Astronomical Society*, **414**, 2763.

Meschiari, S., Laughlin, G., Vogt, S. S., Butler, R. P., Rivera, E. J., **Haghighipour, N.**, Jalowiczor, P., 2011, *The Lick-Carnegie Survey: Four New Exoplanet Candidates*, *Astrophysical Journal*, **727**, 117.

Vogt, S. S., Butler, R. P., Rivera, E. J., **Haghighipour, N.**, Henry, G. W., Williamson, M. H., 2010, *The Lick-Carnegie Exoplanet Survey: A 3.1 M_⊕ Planet in the Habitable Zone of the Nearby M3V Star Gliese 581*, *Astrophysical Journal*, **723**, 954.

Beaugé, C., Leiva, A. M., **Haghighipour, N.**, Otto, J. C., 2010, *Dynamics of planetesimals due to gas drag from an eccentric precessing disc*, Monthly Notices of the Royal Astronomical Society, Monthly Notices of the Royal Astronomical Society, **408**, 503.

Rivera, E. J., Laughlin, G., Butler, R. P., Vogt, S. S., **Haghighipour, N.**, Meschiari, S., 2010, *The Lick-Carnegie Exoplanet Survey: a Uranus-Mass Fourth Planet for GJ 876 in an Extrasolar Laplace Configuration*, Astrophysical Journal, **719**, 890.

Haghighipour, N., Vogt, S. S., Butler, R. P., Rivera, E. J., Laughlin, G., Meschiari, S., Henry, G. W., 2010, *The Lick-Carnegie Exoplanet Survey: A Saturn-Mass Planet in the Habitable Zone of the Nearby M4V Star HIP 57050*, Astrophysical Journal, **715**, 271

Haghighipour, N., 2010, *The Stability and Prospects of the Detection of Terrestrial/Habitable Planets in Multiplanet and Multiple Star Systems*, EAS Publications Series, **42**, 365

Haghighipour, N., 2009, *Dynamical Constraints on the Origin of Main Belt Comets*, Meteorites and Planetary Science, **44**, 1863

Jewitt, D., Yang, B., **Haghighipour, N.**, 2009, *Main-Belt Comet P/2008 R1 (Garradd)*, Astronomical Journal, **137**, 4313

Moskotivz, N., Lawrence, S., Jedicke, R., Willman, M., **Haghighipour, N.**, Bus, S. J., and Gaidos, E., 2008, *A Spectroscopically Unique Main Belt Asteroid: 10537 (1991 RY16)*, Astrophysical Journal Letters, **682**, L57

Haghighipour, N., and Scott, E. R. D., 2008, *Meteorite Constraints on the Early Stages of Planetary Growth in the Inner Solar System*, Publications of the 39th Lunar and Planetary Science Conference, 1679.

Haghighipour, N., and Jewitt, D., 2008, *A Region Void of Irregular Satellites Around Jupiter*, Astronomical Journal, **136**, 909.

Gaidos, E., **Haghighipour, N.**, Agol, E., Latham, D., Raymond, S. N., and Rayner, J., 2007, *New Worlds on the Horizon: Earth-Size Planets Close to Other Stars*, Science, **318**, 210

Haghighipour, N., and Raymond, S. N., 2007, *Habitable Planet Formation in Binary-Planetary Systems*, Astrophysical Journal, **666**, 436

Jewitt D., and **Haghighipour, N.**, 2007, *Irregular Satellites of the Planets: Products of Capture in the Early Solar System*, Annual Review of Astronomy and Astrophysics, **45**, 261

Rivera E. J., and **Haghighipour, N.**, 2007, *On the Stability of Test Particles in Extrasolar Multiple Planet Systems*, Monthly Notices of the Royal Astronomical Society, **374**, 599

Mix, L. J., **Haghighipour, N.**, et al., 2006, *Astrobiology Primer: An Outline of General Knowledge*, Astrobiology, **6**, 735

Haghighipour, N., 2006, *Dynamical Stability and Habitability of γ Cephei Binary-Planetary System*, *Astrophysical Journal*, **644**, 543

Haghighipour, N., 2005, *Growth and Sedimentation of Dust Particles in the Vicinity of Local Pressure Enhancements in a Solar Nebula*, *Monthly Notices of the Royal Astronomical Society*, **362**, 1015

Haghighipour, N., 2005, *On the Asymptotic Character of Electromagnetic Waves in a Friedmann-Robertson-Walker Universe*, *General Relativity and Gravitation*, **37**, 327

Haghighipour, N., 2004, *Growth of Dust Particles and Accumulation of Centimeter-Sized Objects in the Vicinity of a Pressure-Enhanced Region of a Solar Nebula*, *Publications of the 35th Lunar and Planetary Science Conference*, 2001

Haghighipour, N., 2004, *The Effect of Density Enhancement Structures of a Nebula on the Formation of Terrestrial Planets and Water-Delivery Mechanism*, *International Journal of Astrobiology*, Supp.1, 72

Rivera, E., and **Haghighipour, N.**, 2004, *Stability of Test Particles in Extrasolar Planetary Systems*, *International Journal of Astrobiology*, Supp.1, 33

Haghighipour, N., and Boss, A. P., 2003, *On Gas Drag Induced Rapid Migration of Solids in a Non-Uniform Gaseous Nebula*, *Astrophysical Journal*, **598**, 1301

Haghighipour, N., Couetdic, J., Varadi, F., and Moore, W. B., 2003, *On Stable 1:2 Resonant Periodic Orbits in Elliptic Three-Body Systems*, *Astrophysical Journal*, **596**, 1332

Haghighipour, N., and Boss, A. P., 2003, *Gas-Drag Induced Migration of Solids in the Vicinity of a Density Enhancement in a Non-Uniform Solar Nebula*, *Publications of the 34th Lunar and Planetary Science Conference*, 1971

Haghighipour, N., and Boss, A. P., 2003, *On Pressure Gradient and Rapid Migration of Solids in a Non-Uniform Solar Nebula*, *Astrophysical Journal*, **583**, 996

Haghighipour, N., and Boss, A. P., 2002, *Dynamical Evolution of Solids in a Marginally Gravitationally Unstable Disk*, *Publications of the 33rd Lunar and Planetary Science Conference*, 1376

Boss A. P., Wetherill, G. W., and **Haghighipour, N.**, 2002, *Rapid Formation of Ice-Giant Planets*, *Icarus*, **156**, 291

Haghighipour, N., 2002, *On the Enhancement of the Growth-Rate of Planetesimals in the Terrestrial Region of Non-Uniform Solar Nebula*, *Astrobiology Journal*, **2**, 529

Haghighipour, N., Couetdic, J., Varadi, F., Moore, W. B., and Runnegar, B., 2002, *On Stable Resonant Periodic Orbits as Possible Locations of Extrasolar Terrestrial Planets*, *Astrobiology Journal*, **2**, 531

Haghighipour, N., and Boss, A. P., 2002, *Migration of Solids in a Gravitationally Unstable Disk: A Possible Scenario for Terrestrial Planets Formation*, *The International Journal of Astrobiology*, **1**, 166

Boss A. P., Wetherill, G. W., and **Haghighipour, N.**, 2002, *Rapid Ice Giant Planet Formation and its Implications for Prebiotic Chemistry*, *The International Journal of Astrobiology*, **1**, 90

Haghighipour, N., 2002, *Resonance Dynamics and Partial Averaging in a Restricted Three-Body System*, *Journal of Mathematical Physics*, **43**, 3678

Haghighipour, N., 2000, *Partial Averaging Near a Resonance in Planetary Dynamics*, *Monthly Notices of the Royal Astronomical Society*, **316**, 845

Haghighipour, N., 1999, *Dynamical Friction and Resonance Trapping in Planetary Systems* *Monthly Notices of the Royal Astronomical Society*, **304**, 185

Haghighipour, N., 1998, *An Analytical Approach to Resonance Trapping Between Saturn and Jupiter*, *Publication of the 29th Lunar and Planetary Science Conference*, 1921

Haghighipour, N., and Huang, J. C., 1995, *Generalized Kepler's Third Law and the Virial Theorem*, *IL Nuovo Cimento*, **110B**, 1363 (1995)

Conference Proceedings

Andrews, M. and **Haghighipour, N.**, 2024, *Secular Resonances and Terrestrial Planet Formation in Planetary Systems with Multiple Stars*, in: *Proceedings of the Kavli-IAU Symposium 382: Complex Planetary Systems II* (Eds: A. Lemaitre & A.-S. Libert), Volume 382, pp. 116-122

Haghighipour, N., Maindl, T. I., Schaefer, C. M. and Wandel, O., 2017, *Accurate Treatment of Collision and Water-Delivery in Models of Terrestrial Planet Formation*, in: *Proceedings of Accretion: Building New Worlds Conference*, LPI Contribution No. 2043, id.2030.

Maindl, T. I., Schaefer, C. M., **Haghighipour, N.**, Burger, C. and Dvorak, R., 2017, *Collisional water transport and water-loss relevant to formation of habitable planets*, in: *Proceedings of the First Greek-Austrian Workshop on Extrasolar Planetary Systems*, Eds.: T. I. Maindl, H. Varvoglis, and R. Dvorak, 137-153.

Morbidelli, A. and **Haghighipour, N.**, 2016, *Dynamical Problems in Extrasolar Planetary Science*, in: *Proceedings of the IAU*, **29A**, 3-5

Haghighipour, N., 2016, *The State of Celestial Mechanics: A Historical Perspective*, in: Transactions of the IAU, Division A, Commission 7: Celestial Mechanics and Dynamical Astronomy (Eds. A. Morbidelli, C. Beauge), **29A**, 24

Ehrenfreund, P. F., Kwok, S., Irvine, W., Galante, D., Gargaud, M., Levasseur-Regourd, A-C., **Haghighipour, N.**, Holm, N., Lineweaver, C., Jayawardhana, R., and Ohishi, M., 2016, *Report*, in: Transaction of the IAU, **29A**, 380-382

Morbidelli, A., Beaugé, C., Knežević, Z., Celetti, A., **Haghighipour, N.**, Hut, P., Laskar, J., Mikkola, S. and Roig, F., 2016, *Division a Commission 7: Celestial Mechanics and Dynamical Astronomy*, Transactions of the IAU, **29A**, 24-45

Haghighipour, N., Maindl, T. I., Dvorak, R., Schaefer, C., and Speith, R., 2016, *Triggering Comet-Like Activities of Main Belt Comets*, in: Proceedings of the IAU Symposium 318, Asteroids: New Observations, New Models (Eds. S. Chesley, A. Morbidelli, R. Jedicke), **318**, 135-141

Govender, K., Hemenway, M. K., Wolter, A., **Haghighipour, N.**, Yan, Y., van Dishoeck, E. F., Silva, D., and Guinan, E., 2016, *Divisions Panel Discussion: Astronomy for Development*, in: Proceedings of the IAU, **29A**, 424-426

Oshagh, M., Santos, N. C., Boisse, I., Boué, G., Ehrenreich, D., **Haghighipour, N.**, Figueira, P., Santerne, A. and Dumusque, X., 2015, in: The Space Photometry Revolution (CoRoT Symposium 3, Kepler KASC-7 Joint Meeting), Eds. R.A. García and J. Ballot, EPJ Web of Conferences, **101**, id.05003

Haghighipour, N., Kane, S. and Kopparapu, R., 2015, in Proceedings of the conference *Pathways Towards Habitable Planets*, 2015, id.82

Haghighipour, N., 2015, *Formation and Evolution of Planets in and Around Binary Star Systems*, in Proceedings of the conference Living Together: Planets, Host Stars and Binaries, Eds. S. M. Rucinski, G. Torres, and M. Zejda, ASP Conference Series, **496**, 54

Schunova, E., Walsh, K., Granvik, M., Jedicke, R., Wainscoat, R., **Haghighipour, N.**, 2014, *Properties and evolution of near-Earth-object families created by tidal disruption at the Earth*, in Proceedings of Asteroids, Comets, Meteors, Eds. K. Muinonen et al., 480

Haghighipour, N. and Hsieh, H. H., 2014, *Origin of main-belt comets: In-situ formation vs. implanted interlopers from the outer Solar System*, in Proceedings of Asteroids, Comets, Meteors, Eds. K. Muinonen et al., 195

Podolak, M., and **Haghighipour, N.**, 2014, *Planetesimal capture by an evolving giant gaseous protoplanet*, in Formation, Detection, and Characterization of Extrasolar Habitable Planet. Ed. N. Haghighipour, Proceedings IAU Symposium, **293**, 263-269

Hinse, T. C., **Haghighipour, N.**, and Gozdziewski, K., 2014, *Aspects on the dynamics and detection of additional circumbinary extrasolar planets*, in Formation, Detection, and

Characterization of Extrasolar Habitable Planet, Ed. N. Haghighipour, Proceedings IAU Symposium, **293**, 133-139

Haghighipour, N., Kley, W. and Kaltenegger, L., 2014, *Dynamical Evolution and Migration of Circumbinary Planets and Their Habitability*, in Proceedings of Search for Life Beyond the Solar System. Exoplanets, Biosignatures & Instruments, id.2.8

Schwarz, R., **Haghighipour, N.**, Funk, B., Eggl, S., and Pilat-Lohinger, E., 2012, *Eclipse Timing Variations of Planets in P-Type Binary Star Systems*, in Proceedings of the IAU symposium: From Interacting Binaries to Exoplanets: Essential Modeling Tools, Eds M. T. Richards and I. Hubeny, **282**, 444-445

Haghighipour, N., 2011, *Habitable Extrasolar Planets: From Theory to Observations*, in BOLETÍN DE LA ASOCIACIÓN ARGENTINA DE ASTRONOMÍA, Eds. J. J. Clariá, P. Benaglia, R. Barbá, A. E. Piatti, F. A. Bareilles, **54**, 29-44

Oshagh, M., **Haghighipour, N.**, Santos, N. C., 2011, *A Survey of M Stars in the Field of View of Kepler Space Telescope*, in Proceedings of the IAU symposium: The Astrophysics of Planetary Systems: Formation, Structure, and Dynamical Evolution, Eds. A. Sozzetti, M. Lattanzi, and A. P. Boss., **276**, 448-449

Haghighipour, N., and Rastegar, S., 2011, *Implications of the TTV-Detection of Close-In Terrestrial Planets Around M Stars for Their Origin and Dynamical Evolution*, to appear in Detection and Dynamics of Transiting Exoplanets, Eds. C. Moutou, and F. Bouchy, EPJ Web of Conferences, **11**, id.04004

Haghighipour, N., 2010, *Dynamics, Origin, and Activation of Main Belt Comets*, in Proceeding of the IAU symposium: Icy Bodies of the Solar System, **263**, pp. 207-214

Haghighipour, N., 2010, *The Stability and Prospects of the Detection of Terrestrial/Habitable Planets in Multiplanets and Multiple Star Systems*, in Extrasolar Planets in Multibody Systems: Theory and Observation, EAS Publications Series, **42**, 2010, 365-373

Haghighipour, N., 2009, *Extreme Habitability: Formation of Habitable Planets in Systems with Close-in Giant Planets and/or Stellar Companions*, in Molecules, Microbes and Extraterrestrial Life, Eds. K. J. Meech, J. V. Keane, M. J. Mumma, J. L. Siefert, and D. J. Werthimer., Astronomical Society of the Pacific, **420**, 333

Haghighipour, N., 2007, *Habitability of Planets in Binaries*, in Extreme Solar Systems, Eds. D. Fischer, F. Rasio, S. Thorsett, and A. Wolszczan, ASP Conference Series, **398**, 521.

Haghighipour, N., 2004, *Dynamical Evolution of a Circumbinary Disk and its Effect on the Growth and Sedimentation of Dust Particles*, in Dust, Disks, and the Formation, Evolution, and Detection of Habitable Planets, Ed. S. Unwin, 128

Haghighipour, N., Couetdic, J., Varadi, F., and Moore, W. B., 2004, *Extrasolar Terrestrial Planets on Stable Resonant Periodic Orbits*, in *Dust, Disks, and the Formation, Evolution, and Detection of Habitable Planets*, Ed. S. Unwin, 129

Rivera, E., and **Haghighipour, N.**, 2004, *Do Multi-planet Extrasolar Systems Contain Terrestrial Planets?* In *Dust, Disks, and the Formation, Evolution, and Detection of Habitable Planets*, Ed. S. Unwin, 178

Kortenkamp, S., and **Haghighipour, N.**, 2004, *Habitable Planet Formation in Multiple-Star Systems*, in *Dust, Disks, and the Formation, Evolution, and Detection of Habitable Planets*, Ed. S. Unwin, pp. 142

Haghighipour, N., 2004, *On the Growth of Dust Particles in a Non-Uniform Solar Nebula*. In *The Search for Other Worlds*, Eds. S. S. Holt, D. Deming, AIP Conference Proceedings, **713**, 119

Haghighipour, N., 2004. *On the Dynamical Stability of γ Cephei, An S-Type Binary-Planetary System*, in *The Search for Other Worlds*, Eds. S. S. Holt, D. Deming, AIP Conference Proceedings, **713**, 269

Crossley, J. H., **Haghighipour, N.**, 2004. *On the Stability of a Planetary System Embedded in the β Pictoris Debris Disk*, in *The Search for Other Worlds*, Eds. S. S. Holt, D. Deming, AIP Conference Proceedings, **713**, 265

White Papers

Buratti, B., et al. (Including **Haghighipour, N.**), 2020, *The Small Satellites of the Solar System: Priorities for the Decadal Study*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers

Kopparapu, R., et al. (Including **Haghighipour, N.**), 2020, *Strange New Worlds: Comparative Planetology of Exoplanets and the Solar System* Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers

Holler, B. J., et al. (Including **Haghighipour, N.**), 2020, *Minor Body Science with the Nancy Grace Roman Space Telescope*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers

Apai, D., et al. (including **Haghighipour, N.**), 2019, *Planetary Habitability Informed by Planet Formation and Exoplanet Demographics*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers, no. 475; Bulletin of the American Astronomical Society, Vol. 51, Issue 3, id. 475

Jang-Condell, H., et al. (including **Haghighipour, N.**), 2019, *Protoplanetary Disk Science Enabled by Extremely Large Telescopes*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers, no. 346; Bulletin of the American Astronomical Society, Vol. 51, Issue 3, id. 346

Wolf, E. T., et al. (including **Haghighipour, N.**), 2019, *The Importance of 3D General Circulation Models for Characterizing the Climate and Habitability of Terrestrial Extrasolar Planets*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers, 177

Fortney, J., et al. (including **Haghighipour, N.**), 2019, *The Need for Laboratory Measurements and Ab Initio studies to Aid Understanding of exoplanetary Atmospheres*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers, 146

Wright, J. T., et al. (including **Haghighipour, N.**), 2019, *Searchers for Technosignatures in Astronomy and Astrophysics*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers

Kane, S. R., et al. (including **Haghighipour, N.**), 2019, *Venus as a Nearby Exoplanetary Laboratory*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers

Holler B. J., et al. (including **Haghighipour, N.**), 2019, *It is Full of Asteroids: Solar System Science with a Large Field of View*, Astro2020: Decadal Survey on Astronomy and Astrophysics, science white papers, no. 68; Bulletin of the American Astronomical Society, Vol. 51, Issue 3, id. 68

Welsh, W. et al. (including **Haghighipour, N.**), 2013, *Kepler's Unparalleled Exploration of the Time Dimension*, Kepler Telescope white paper

Hansen, C., J., Stansberry, J., A., **Haghighipour, N.**, et al., 2009, *KBO Science with Argo – A Voyage through the Outer Solar System*, White paper submitted to NASA 2010 decadal survey

Weaver, H., Meech, K., J., **Haghighipour, N.** et al., 2009, *Goals And Priorities For The Study Of Comets In The Next Decade (2011-2020)*, White paper submitted to NASA 2010 decadal survey on small bodies

Fernandez, Y., **Haghighipour, N.**, et al., 2009, *Goals And Priorities For The Study Of Trans Neptunian Objects and Centaurs In The Next Decade (2011-2020)*, White paper submitted to NASA 2010 decadal survey on small bodies

Britt, D., **Haghighipour, N.**, et al., 2009, *Goals And Priorities For The Study Of Asteroids In The Next Decade (2011-2020)*, White paper submitted to NASA 2010 decadal survey on small bodies

Burrati, B., **Haghighipour, N.**, et al., 2009, *Goals And Priorities For The Study Of Irregular Satellites In The Next Decade (2011-2020)*, White paper submitted to NASA 2010 decadal survey on small bodies

Haghighipour, N., and Meech, K., J., 2009, *Main Belt Comets: Asteroid Belt's New Class Of Objects And Possible Source Of Water And Volatiles For The Earth*, White paper submitted to Astro2010 Decadal Survey

Haghighipour, N., Agol, E., Eastman, J., D., Ford, E. B. Gaudi, B. S., Holman, M. J., Steffen, J., and Veras, D., 2009, *High-Accuracy Measurements of Variations in Transit Timing: A New Method for Detecting Terrestrial-Class Extrasolar Planets*, White paper submitted to Astro2010 Decadal Survey

Ford, E.B., Adams, F. C., Agol, E., Armitage, P., Gaudi, B. S., **Haghighipour, N.**, Holman, M. J., Laughlin, G., Lin, D. N. C., Malhotra, R., Marcy, G. W., Quillen, A. C., Rasio, F. A., Sigurdsson, S., 2009, *From Discovery to Understanding: Principles for Maximizing Scientific Return on Exoplanet Research*, White paper submitted to Astro2010 Decadal Survey

Boss, Ap.P., Young, E., Meadows, V., and **Haghighipour, N.**, 2009, *Achieving the Goals and Objectives of the 2008 NASA Astrobiology Roadmap*, White paper submitted to Astro2010 Decadal Survey

Kasting, J., **Haghighipour, N.** et al., 2009, *Exoplanet Characterization and Search for Life*, White paper submitted to Astro2010 Decadal Survey

Haghighipour, N., Sigurdsson, S., Lissauer, J., and Raymond, S. N., 2007, *Terrestrial and Habitable Planet Formation in Binary and Multistar Systems*, White paper submitted to the NASA/NSF ExoPlanet Task Force (2007arXiv0704.0832H)

Conference, Workshops, and Special Sessions Organized

Advances in Terrestrial Planet Formation: A Comparison of the Three Currently Leading Scenarios

Joint meeting of EPSC and DPS

Helsinki, Finland (September 7 – 12, 2025)

Organizer: **N. Haghhighipour**, J. Sudol, N. Georgakarakos

Habitability: The Astrophysical, Atmospheric and Geophysical Implications

Munich Institute for Astro- and Particle Physics

Munich, Germany (May 21 – June 14, 2024)

Organizers: N. Georgakarakos, **N. Haghhighipour**, D. Veras, R. P. Kudritzki

New Advances in Planetary Science and Comparative Planetology

Symposium organized by the Commission on Planetary Science of IUGG

General Assembly of the International Union of Geology and Geophysics

Berlin, Germany (July 17, 2023)

Organizers: S. Jin, **N. Haghhighipour**, S. Rafkin

Finding a Job as an Astrobiologist

Workshop at AbGradE 2023

La Palma, Canary Islands (May 4, 2023)

Organizers: European Astrobiology Society and AbGradE (including **N. Haghhighipour**)

Advances in Modeling the Formation and Chemical Composition of Terrestrial Planets

Special Session at the European Geophysical Union (EGU)

Vienna, Austria (April 27, 2023)

N. Haghhighipour, S. Crespi, B. Loibnegger

Planet Formation: From Dust Coagulation to Final orbit Assembly

Munich Institute for Astro- and Particle Physics

Munich, Germany (June 1 – 26, 2022)

Organizers: **N. Haghhighipour**, Man Hoi Lee, S. Matsumura, H. Schlichting

Advances in Developing Quantitative and Realistic Models of Terrestrial Planet Formation and their Chemical Compositions

EPSC-DPS joint meeting 2019

Geneva, Switzerland (September 15 – 20, 2019)

Organizers: N. Haghhighipour, T. Maindl

Formation, Dynamical Evolution and Detection of Circumbinary Planets

Special session at the 2019 annual meeting of the AAS Division on Dynamical Astronomy

Boulder, Colorado (June 10 – 13, 2019)

Organizers: **N. Haghhighipour**, G. Li, B. Quarles

IAU GA Planets Days: Recent Advances in Planetary Science

Vienna, Austria (August 24 – 27, 2018)

Organizer: **N. Haghighipour**

IAU Symposium 345: Origins: From the Protosun to the First Steps of Life

Vienna, Austria (August 20 – 31, 2018)

Organizers: B. Elmgreen, V. Toth, **N. Haghighipour**, M. Guedel

Search for Life: From Early Earth to Exoplanets

Quy Nonh, Vietnam (December 12 – 16, 2016)

Member of the Scientific Advisory Committee and Lecturer

Extrasolar Planets: Formation and Dynamics

Bad Honnef, Germany (June 26 – July 1, 2016)

Organizer and Lecturer

Extreme Solar System III: Session on Habitability, and Chair of LOC

Kona, Hawaii (November 29 – December 4, 2015)

Organizer and Chair of LOC: **N. Haghighipour**

Dynamical Problems in Extrasolar Planets Science

IAU General Assembly

Honolulu, Hawaii (August 10-14, 2015)

Scientific Organizing Committee Co-Chairs: A. Morbidelli, **N. Haghighipour**

Search For Water and Life's Building Blocks in the Universe

IAU General Assembly

Honolulu, Hawaii (August 2-7, 2015)

Scientific Organizing Committee: S. Kwok, **N. Haghighipour**, et al.

Protostars and Protoplanets VI

Heidelberg, Germany (July 15-20, 2013)

Scientific Advisory Committee: Andre, Boss, **Haghighipour**, et al.

Exoplanets in Multibody Systems in the Kepler Era

Aspen, Colorado (February 9-16, 2013)

Organizers: E. Ford & **N. Haghighipour**

IAU Symposium 293: Formation, Detection, and Characterization of Habitable Extrasolar Planets

Beijing, China (August 27-31, 2012)

Organizer: **N. Haghighipour** & J. L. Zhou

Cool Stars 17: 17th Cambridge workshop on cool stars, stellar systems, and the Sun

Barcelona, Spain (June 24-29, 2012)

Organizer: Mercedes Morrales-Lopez, **N. Haghighipour**, et al.

Transiting Planets in the House of the Sun

A workshop on M dwarf stars and their planets

Haleakala, Maui (June 4-6, 2012)

Scientific Organizing Committee: E. Gaidos, **N. Haghhighipour**, et al.

Cutting Edge Dynamics: From Planetary Rings to Galaxies

Special session at the annual meeting of the American Astronomical Society

Austin, Texas (January 8-13, 2012)

Organizer: **N. Haghhighipour**, D. Scheers, J. Sellwood

Extreme Solar Systems II: Session on Habitability

Jackson Hole, Wyoming (September 11-17, 2011)

Organizer: **N. Haghhighipour**, G. Marcy, F. Rasio, S. Sigurdsson, E. Ford

The 8th Humboldt Conference on Celestial Mechanics

Salzbuurg, Austria (March 20-26, 2011)

Scientific Organizing Committee: R. Dvorak, **N. Haghhighipour**, et al.

The Dynamics of Early Earth-like and Super-Earth Planets

A special session at the Goldschmidt 2009 Conference

Davos, Switzerland (June 21-26, 2009)

Organizer: **Nader Haghhighipour**, Lisa Kaltenegger, Steinn Sigurdsson, Mark Harrison

Formation, Composition, and Detection of Habitable Super-Earths

A special session at the Aspen Summer Workshop on Super-Earths

Aspen, CO (August 17-22, 2008)

Organizer: **Nader Haghhighipour**, Steinn Sigurdsson

Formation, Composition, and Detection of Habitable Extrasolar Planets

A topical session at the Astrobiology Conference 2008

Santa Clara, CA (April 14-17, 2008)

Organizer: **Nader Haghhighipour**, Vikki Meadows, Stein Sigurdsson

Workshop on the Origin of Earth Water

Molokai, HI (February 27-March 1, 2008)

Organizer: Karen Meech, **Nader Haghhighipour**, Mike Mottl, Mike Mumma, Stephen Mojzsis

Bioastronomy 2007; Molecules, Microbes and Extraterrestrial Life

San Juan, PR (July 16-20, 2008)

Scientific Organizing Committee: William Irvine, Peter Backus, John Baross, Alan Boss, **Nader**

Haghhighipour, Karen Meech, Michael Mumma, Carol Oliver, John Rummel, Janet Siefert, Thorsteinn Thorsteinsson, Daniel Werthimer

Water in Habitable Planetary Systems

Topical session in 210 meeting of AAS

Honolulu, HI (27-31, May 2007)

Organizer: **Nader Haghighipour**, Karen Meech

Hot-Earths: Formation, Detection, and Structure

Special session in 210 meeting of AAS

Honolulu, HI (27-31, May 2007)

Organizer: **Nader Haghighipour**, Eric Gaidos

Formation and Detection of Habitable Planets

Special session in 209 meeting of AAS

Seattle, WA (January 5-10, 2007)

Organizer: **Nader Haghighipour**, Karen Meech

Planets in Binary Star Systems

Special session in 207 meeting of AAS

Washington, DC (January 8-12, 2006)

Organizer: **Nader Haghighipour**

Invited Talks and Lectures

Do Tatooines Exist and Can They be Habitable?

Department of Physics, Georgia Institute of Technology
Atlanta, Georgia (May 12, 2025)

Earth's Water: It Came from Space

Open House Institute for Astronomy, University of Hawaii-Manoa
Honolulu, HI (April 13, 2025)

A Comprehensive and Self-consistent Approach to the Formation of Terrestrial Planets

National Central University of Taiwan
Taiwan (June 28, 2024)

Astrobiology

Keynote presentation at AbGradE 2023
La Palma, Canary Islands (May 4, 2023)

Fundamental Problems in Planetary Science and Astrobiology

13th IAU-Abdul Jabbar Astronomy Workshop
Bangladesh University of Engineering and Technology
Dhaka, Bangladesh (November 6, 2020)

Terrestrial Planet Formation in Modern Era: Current State and Future Direction

Pathways to Habitability
Bad Hofgastein, Austria (January 12-18, 2020)

Life Stories; A Career in Astrobiology and Planetology

Keynote Presentation at EPSC-DPS 2019
Geneva, Switzerland (September 15, 2019)

Planets in Binary Stars

Institute of Physical Sciences of the National Autonomous University of Mexico (ICF-UNAM)
Cuernavaca, Mexico (February 20, 2019)

New Advances in the Formation of Terrestrial Planets

National Institute for Space Research
San Jose Campos, Brazil (October 2, 2018)

Four Lectures on Exoplanet Formation and Kepler Telescope's Discoveries

3rd Astrobiology School at the National Observatory of Brazil
Rio de Janeiro, Brazil (October 1 – 5, 2018)

Planet Formation: The Gateway to Astrobiology

Keynote talk at the 3rd AbGradE Symposium
Berlin, Germany (September 22 – 24, 2018)

From Dust to Planets

Summer School on the Formation and Evolution of Stars and Planets, the Early Solar System, and the Emergence of Life

Vienna, Austria (August 17 – 18, 2018)

Modern Simulations of Terrestrial Planet Formation and the Origin of Earth's Water

Leibniz Institute for Astrophysics

Potsdam, Germany (June 7, 2018)

Modern Simulations of Terrestrial Planet Formation and the Origin of Earth's Water

University of Groningen

Groningen, Netherlands (June 4, 2018)

Modern Simulations of Terrestrial Planet Formation and the Origin of Earth's Water

National Astronomical Observatory of Japan

Tokyo, Japan (May 18, 2018)

Modern Simulations of the Formation of Terrestrial Planets and Origin of Earth's Water

Yuval Ne'eman Distinguish Lectures in Geophysics, Atmospheric Physics and Space Science

University of Tel Aviv, Israel (April 16, 2018)

Kepler and the Discovery of Worlds with Multiple Suns

Yuval Ne'eman Distinguish Lectures in Geophysics, Atmospheric Physics and Space Science

University of Tel Aviv, Israel (April 15, 2018)

Kepler's Discovery of New Habitable Worlds

Hebrew University of Jerusalem

Jerusalem, Israel (April 12, 2018)

The Unifying Power of Astrobiology

Keynote talk at the Astrobiology Conference

Hebrew University of Jerusalem, Israel (April 10, 2018)

Kepler's Discovery of New Habitable Worlds

Yuval Ne'eman Distinguish Lectures in Geophysics, Atmospheric Physics and Space Science

University of Tel Aviv, Israel (April 9, 2018)

Kepler's Discovery of New Habitable Worlds

New York University in Abu Dhabi

Abu Dhabi, United Arab Emirates (February 21, 2018)

The Unifying Power of Astrobiology

Astrobiology Conference

Coyhaique, Chile (November 27 – Dec 1, 2017)

Formation and Evolution of Planetary Systems

Training School on Astrobiology
Santiago, Chile (November 24 – 25, 2017)

The Fall of the Nice Model

Institute for Astronomy, University of Hawaii-Manoa
Honolulu, HI (October 3, 2017)

Formation of Terrestrial Planet in the Solar System

The 9th Humboldt Colloquium on Celestial Mechanics
Bad Hofgastein, Austria (March 20 – 24, 2017)

The Unifying Power of Research on Life

Search for Life: From Early Earth to Exoplanets
Qui Nhon, Vietnam (December 11 – 16, 2016)

Formation of Solar System

Training School on Basic Astrobiology
Qui Nhon, Vietnam (December 9 – 11, 2016)

Kepler Habitable Zone Planets

Hawaii Institute for Geophysics and Planetology
Honolulu, HI (November 14, 2016)

Terrestrial Planet Formation in the Solar System and Beyond

Department of Physics and Astronomy, West Chester University
West Chester, PA (September 16, 2016)

Kepler's Discovery of Worlds with Multiple Suns

Department of Terrestrial Magnetism, Carnegie Institution of Washington
Washington, DC (September 15, 2016)

Circumbinary Planets: New Challenges of Exoplanetary Astronomy

AOGS (Asia Oceania Geosciences Society)
Beijing, China (July 31 – August 5, 2016)

Giant Extrasolar Planets in the Habitable Zone

AOGS (Asia Oceania Geosciences Society)
Beijing, China (July 31 – August 5, 2016)

Habitability and Habitable Zone

Workshop on Extrasolar Planets: Formation and Dynamics
Bad Honnef, Germany (June 26 – July 1, 2016)

Planets and Binary Star Systems

Workshop on Extrasolar Planets: Formation and Dynamics
Bad Honnef, Germany (June 26 – July 1, 2016)

New Models of Terrestrial Planet Formation in Solar System

Institute for Astronomy, Dept. Geophysics & Atmospheric Sciences, University of Sao Paulo
Sao Paulo, Brazil (November 19, 2015)

Main Belt Comets: A new Class of Icy Asteroids

Institute for Astronomy, Dept. Geophysics & Atmospheric Sciences, University of Sao Paulo
Sao Paulo, Brazil (November 16, 2015)

Habitability in Solar System and Beyond

2nd COSPAR Symposium
Iguacu Falls, Brazil (November 9 – 13, 2015)

Extrasolar Planets: Two Decades of Mysteries, Challenges, and Triumphs

Department of Physics and Astronomy, West Chester University
West Chester, Pennsylvania, (August 27, 2015)

Formation of Terrestrial Planets in the Inner Solar System

Department of Astronomy, University of Tel Aviv
Tel Aviv, Israel (June 8, 2015)

Planets and Binary Stars Systems

Department of Physics & Astronomy, San Francisco State University
San Francisco, California (March 24, 2015)

Terrestrial Planet Formation in the Context of Giant Planet Migration

Department of Physics & Astronomy, San Francisco State University
San Francisco, California (March 23, 2015)

Terrestrial Planet Formation in the Context of Giant Planet Migration

Department of Earth, Planetary, and Space Science, UCLA
Los Angeles, California, (March 12, 2015)

Terrestrial Planet Formation in the Context of Giant Planet Migration

Queen Mary College
London, UK (February 5, 2015)

Terrestrial Planet Formation in the Context of Giant Planet Migration

Department of Applied Mathematics and Theoretical Physics, University of Cambridge
Cambridge, UK (February 2, 2015)

Formation and Evolution of Circumbinary Planets

Institute of Astronomy, University of Cambridge,
Cambridge, UK (February 4, 2015)

Terrestrial Planet Formation and the Origin of Mars

Max Planck Institute for Astronomy
Heidelberg, Germany (January 16, 2015)

Formation and Evolution of Circumbinary Planets

Institute for Theoretical Astrophysics, University of Heidelberg
Heidelberg, Germany (January 12, 2015)

Formation and Evolution of Circumbinary Planets

Department of Astronomy, University of Goettingen
Goettingen, Germany (December 4, 2014)

Terrestrial Planet Formation and the Origin of Mars

Department of Astronomy, University of Goettingen
Goettingen, Germany (December 4, 2014)

Formation and Evolution of Circumbinary Planets

Department of Astronomy, University of Jena
Jena, Germany (December 4, 2014)

Terrestrial Planet Formation and the Origin of Mars

Department of Astronomy, University of Jena
Jena, Germany (December 4, 2014)

Lecture Series on Terrestrial Planet Formation, Habitability, and Planets in Binary Stars

Summer course on Exoplanets
La Palma, Canary Islands (September 24 – October 2, 2014)

Formation and Evolution of Planets in and Around Binary Stars Systems

Living Together: Planets, Host Stars, and Binaries
Litomyšl, Czech Republic (September 8 – 12, 2014)

Terrestrial Planet Formation and the Origin of Mars

Department of Physics and Astronomy, University of Preston
Preston, England (August 5, 2014)

Terrestrial Planet Formation and the Origin of Mars

Hawaii Institute for Geology and Planetology, University of Hawaii
Honolulu, Hawaii (May 7, 2014)

Terrestrial Planet Formation and the Origin of Mars

NASA Goddard Space Center
Greenbelt, Maryland (March 7, 2014)

Terrestrial Planet Formation and the Origin of Mars

Department of Astronomy, University of Maryland
College Park, Maryland (March 6, 2014)

Terrestrial Planet Formation and the Origin of Mars

University of Missouri-Columbia
Columbia, Missouri (March 4, 2014)

Science with Kepler

University of Missouri-Columbia
Columbia, Missouri (March 3, 2014)

Terrestrial Planet Formation and the Origin of Mars

Department of Terrestrial Magnetism, Carnegie Institution of Washington
Washington, DC (February 26, 2014)

A New Model For the Formation of Terrestrial Planets and the Origin of Mars

Institute for Astronomy, University of Hawaii
Honolulu, Hawaii (February 5, 2014)

Terrestrial/Habitable Planet Formation in Solar System and Exoplanets

Deutsches Zentrum für Luft- und Raumfahrt (DLR)
Berlin, Germany (December 16 – 19, 2013)

Dynamics of Planet Formation in Binaries and Outside

Exoplanets and Disks: Their Formation and Diversity
Kona, Hawaii (December 8 – 12, 2013)

Habitability and Habitable Zone

The 1st COSPAR Symposium
Bangkok, Thailand (November 11 – 15, 2013)

New Model of the Formation of Terrestrial Planets in Our Solar System

Institute for Astronomy, University of Vienna
Vienna, Austria (October 14, 2013)

Science With Kepler

Annual Meeting of the German Astronomical Society
Tuebingen, Germany (September 24 – 27, 2013)

Video at http://timmsrc.uni-tuebingen.de/Player/Player/UT_20130925_002_AG2013_0001

New Models of the Terrestrial Planet Formation in Our Solar System

Institute for Solar Physics
Frieburg, Germany (July 25, 2013)

Habitable Extrasolar Planets: Formation, Observation, and Challenges

International Symposium on Planetary Sciences
Shanghai, China (July 1 – 4, 2013)

Detecting Earth-Like Planets and Water Origin
International Symposium on Planetary Sciences
Shanghai, China (July 1 – 4, 2013)

Planets in and Around Binary Stars
Paris Observatory
Paris, France (May 21, 2013)

A Compound Model for the Origin of Earth's Water
Paris Observatory
Paris, France (May 21, 2013)

Lecture Series on Formation of Planetary Systems and Extrasolar Planets
UNESP, University Estadual Paulista
Guaratingueta, Brazil (April 29 – March 3, 2013)

Planets in and Around Binary Stars
Humboldt Foundation
Hannover, Germany (March 20, 2013)

Habitable Circumbinary Planets
Exoplanets in Multi-body Systems in the Kepler Era
Aspen, Colorado (February 9 – 16, 2013)

Formation Mars and Terrestrial Planets
University of Tuebingen, Department of Astronomy
Tuebingen, Germany (January 15, 2013)

Planets in and Around Binary Stars
University of Tuebingen
Tuebingen, Germany (January 15, 2013)

Planets with Two Stars
Korean Institute for Space Sciences
Daejeon, South Korea (September 3, 2012)

Exoplanets and KMTNet
Korean Institute for Space Sciences
Daejeon, South Korea (September 3, 2012)

Detecting Planets Using Transit Photometry: Current State and Future Prospects
Collaboration Meeting on Antarctic Survey Telescope
LiJiang Yunnan, China (August 16-18, 2012)

Planetesimal Capture by an Evolving Gaseous Giant Planet

Harvard University
Cambridge, Massachusetts (April 23, 2012)

The Quest for Habitable Planets

Astronomy Frontiers Talk
University of Hawaii-Manoa (March 13, 2012)

Habitable Extrasolar Planets: From Theory to Observation

Institute of Astronomy, Geophysics, and Atmospheric Sciences
University of Sao Paulo, Brazil (March 7, 2012)

The Search for Earth-like Planets Outside Our Solar System

Hawaii Space Lecture Series
NASA Pacific Regional Planetary Data Center and Hawaii Institute for Geophysics and
Planetology, University of Hawaii-Manoa (January 24, 2012)

***Transit Timing Variation Method: A Strong, Successful Technique for Detecting
Small Planets***

Institute for Astronomy and Space Physics, Ciudad University
Buenos Aires, Argentina (October 13, 2011)

Habitable Extrasolar Planets: From Theory To Observations

First Annual Binational Chilean-Argentinian Astronomy Meeting
San Juan, Argentina (October 3-7, 2011)

Detection of Habitable Trojan Planets Using Transit Timing Variation Method

Extreme Solar System II
Jackson Hole, Wyoming (September 11-17, 2011)

Terrestrial Planet Formation and Water Delivery

Workshop on the Origin of Earth's Water
Iceland (September 4-10, 2011)

Comets and the Origin of Earth's Water

810th Anniversary of Nasireddin Tusi
Azerbaijan University
Baku, Azerbaijan (June 16-18, 2011)

Extrasolar Planets: Theoretical and Observational Challenges

Qafqaz Univerity
Baku, Azerbaijan (June 15, 2011)

The Effects of Secular Resonances on Terrestrial Planets Formation

8th Humboldt Conference on Celestial Mechanics
Bad Hofgestain, Austria (March 21-26, 2011)

***From Planetesimals to Terrestrial Planets: Formation of Habitable Planets
In Binary Star Systems***

UNESP, University Estadual Paulista
Guaratingueta, Brazil (August 16, 2010)

Terrestrial Planet Formation Around M stars

Institute for Astronomy, University of Vienna
Vienna, Austria (May 13, 2010)

Origin and Activation of Main Belt Comets

Asian Oceania Geosciences Society (AOGS)
Singapore (August 11-15, 2009)

Dynamical Modeling of the Origin and Activation Mechanism of Main Belt Comets

IAU Symposium 263 (Icy Bodies of Solar System)
Rio De Janeiro, Brazil (August 3-7, 2009)

***Implications of Dynamical Stability For The Detection of Super-Earths Via
Transit Timing Variation Method***

Goldschmidt Conference
Davos, Switzerland (June 22-26, 2009)

Habitable Planet Formation in Binaries

Institute of Astronomy, University of Vienna
Vienna, Austria (June 18, 2009)

Detection of Super-Earth Planets via the Transit Timing Variation Method

American Geophysical Union
San Francisco, CA (December 15-19, 2008)

Dynamical Constraints on the Origin and Activation Mechanism of Main Belt Comets

Institute for Astronomy, University of Hawaii-Manoa
Honolulu, HI (September 10, 2008)

***The Long-Term Stability and Prospects of the Detection of Terrestrial and Habitable Planets
in Multi-planet and Multiple Star Extrasolar Planetary Systems***

Extrasolar Planets in Multi-Body Systems: Theory and Observations
Torun, Poland (August 25-29, 2008)

Dynamical Constraints on the Origin and Activation Mechanism of Main Belt Comets

Asteroids, Comets, and Meteorites (ACM 2008)
Baltimore, MD (July 13-18, 2008)

Formation of Extrasolar Habitable Planets

Institute for Geophysics and Extraterrestrial Physics,
Technical University of Braunschweig
Braunschweig, Germany (July 8, 2008)

The Prospects of Detecting Super-Earth Planets via the Transit Timing Variation Method
Super-Earths Workshop
Nantes, France (June 16-18, 2008)

Prospects of The Detection of Short-Period Terrestrial-Class Objects in the Vicinity of Close-in Giant Planets
AbSciCon 2008
Santa Clara, CA (April 14-17, 2008)

Gas Density/Pressure Enhanced Regions as Favorable Places for the Formation of Planetesimals via Gravitational Instability
JPL Workshop on Planet Formation Processes and the Development of Prebiotic Conditions
Pasadena, CA (March 18-21, 2008)

Formation of Habitable Planets and the Origin of Water and Volatiles
George Mason University
Fairfax, VA (February 17, 2008)

Habitable Planet Formation in Extreme Planetary Systems
IAU Symposium 249: EXOPLANETS: Detection, Formation and Dynamics,
Suzhou, China (October 22-26, 2007)

From Dust to Habitable Planets
Planetary Science Institute
Tucson, Arizona (August 20-21, 2007)

Extreme Habitability: Formation of Habitable Planets in Systems with Close-in Giant Planets and/or Stellar Companions
Bioastronomy 2007
San Juan, Puerto Rico (July 16-20, 2007)

Habitability of Planets in Binaries
Extreme Solar Systems Conference
Santorini, Greece (June 24–29, 2007)

Models of Water Delivery to Earth
210th Annual Meeting of the American Astronomical Society
Honolulu, HI (May 27-31, 2007)

Habitable Planet Formation: A Review of Current Status
209th Annual Meeting of the American Astronomical Society
Seattle, WA (January 5-10, 2007)

Habitable planet formation; A review of current status
209th Annual Meeting of the American Astronomical Society
Seattle, WA (January 5 – 10, 2007)

Habitable planet formation in single and binary star systems
Department of Physics and Astronomy, University of Denver
Denver, CO (March 30, 2006)

Habitable planet formation in single and binary star systems
Department of Physics and Astronomy, University of Central Florida
Orlando, FL (February 8, 2006)

Planet Formation

Hawaii Institute for Geophysics and Planetology, University of Hawaii-Manoa
Honolulu, HI (December 2, 2005)

Current Status of Extrasolar Planets and New Challenges in Planetary Science
Department of Geology and Geophysics, University of Hawaii-Manoa
Honolulu, HI (September 16, 2005)

Habitable Planets in Binary Star Systems: New Challenges of Planetary Dynamics
Planetary Science Institute
Tucson, AZ (August 23, 2005)

Habitable Planets in Binary Star Systems: New Challenges of Planetary Dynamics
NASA/ Goddard Space Flight Center
Greenbelt, MD (August 17, 2005)

150 New Planets, 150 New Challenges
Mauna Kea Visitor Center
Mauna Kea, Hawaii Island, HI (June 10, 2005)

Habitable Planets and Water-Delivery in Binary Star Systems
General Meeting of NASA Astrobiology Institute
Boulder, CO (April 10, 2005)

Formation of Habitable Planets in Binary Star Systems
Aspen 2005 Winter Conference on Astrophysics
Planet Formation and Detection
Aspen, CO (February 12, 2005)

A World with Two Suns
Institute for Astronomy, University of Hawaii-Manoa
Honolulu, HI (January 26, 2005)

Extrasolar Planets; The Challenges of Planetary Science
American Center for Physics
College Park, MD (June 16, 2004)

Is Sun the Only Star with Planets?

NASA (Journey Through the Universe Program)
Washington, DC (October 20, 2003)

One Hundred Other Solar Systems; How Planetary Systems Are Formed?

George Mason University
Fairfax, VA (March 31, 2003)

A Study of the Stability of Multi-planet Extrasolar Planetary Systems

Institute for Geophysics and Planetary Physics, University of California, Los Angeles
Los Angeles, CA (December 12, 2002)

Rapid Migration of Small Solids in a Non-Uniform Solar Nebula

Department of Terrestrial Magnetism, Carnegie Institution of Washington
Washington, DC (November 22, 2002)

Challenges in Theoretical Astronomy

National Science Foundation
Washington, DC (July 9, 2002)

Extrasolar Planetary Systems; Theoretical Challenges

Commerce Science and Technology Fellowship Program
Department of Commerce, Carnegie Institution of Washington
Washington, DC (June 13, 2002)

Solid-Body Dynamics in Gravitationally Unstable Protostellar Disks

Department of Astronomy, University of Maryland-College Park
College Park, Maryland (May 21, 2002)

Extrasolar Planetary Systems; What Is So Special About Them?

Department of Physics and Astronomy, Southwest Missouri State University
Springfield, Missouri (April 2001)

A Review of the Status of Planets Around Other Stars

Department of Physics, Loyola University
New Orleans, Louisiana (March 2001)

Extrasolar Planetary Systems and Planetary Dynamics

Department of Physics and Astronomy, University of Mississippi
Oxford, Mississippi (January 2001)

Public Outreach Presentations

Earth's Water: It Comes from Space

Open House of The Institute for Astronomy, University of Hawaii-Manoa
Honolulu, HI (April 13, 2025)

World with Two Suns: A Decade of Finding Real Tutooines

Open House of The Institute for Astronomy, University of Hawaii-Manoa
Honolulu, HI (April 21, 2024)

Origin of the Moon

Hawaii Technology Academy
Honolulu, HI (October 22, 2022)

The Origin of Earth's Oceans and Life on Extrasolar Planets

Pahala Public Library (Part of the University of Hawaii-Manoa Cultural Extension Program)
Pahala, HI (July 26, 2022)

The Origin of Earth's Water

Mililani Public Library (Part of the University of Hawaii-Manoa Cultural Extension Program)
Mililani, HI (July 19, 2022)

A World With Two Suns

Oahu Country Club
Honolulu, HI (August 13, 2020)

Life, Elsewhere in the Universe

Oahu Country Club
Honolulu, HI (March 14, 2019)

How to Hunt for New Earths?

Givatayim Observatory
Tel Aviv, Israel (April 15, 2018)

Life, elsewhere in the Universe

Christ Church Uniting
Kailua, HI (January 7, 2018)

Tutooine: More Science, Less Fiction

Mililani Public Library (Part of the University of Hawaii-Manoa Cultural Extension Program)
Mililani, HI (July 8, 2017)

Kepler Habitable Zone Planets

Windward Community College
Kaneohe, HI (September 22, 2016)

Tatooine: From Science Fiction to Reality

HawaiiCon 2015

Kona, Hawaii (September 13, 2015)

The Quest for Habitable Worlds

University of Tuebingen, Office of International Scholars

Tuebingen, Germany (January 9, 2013)

The Quest for Habitable Planets

Beijing Planetarium

Beijing, China (August 26, 2012)

Is Our Solar System Unique?

Architects and Engineers of Hawaii

Honolulu, HI (October 27, 2006)

Exploring the Solar System

Space Day 2001

Saint Louis Science Center

Saint Louis, Missouri (February 2001)

Interviews, Online Lectures, and Radio & TV appearances

- France TV Channel 5, Paris, France (2023)
- Interview with Innovaxiom (2022) (<https://youtu.be/Y-zWEAxZTw0>)
- Live Science (2021)
- Interview with IITV, A London based independent TV channel (2021)
- Interview with Asia Ville News (2020)
<https://www.asiavillenews.com/article/look-up-for-comet-neowise-cosmic-fireworks-at-play>
- European Early Career Committee (EPEC)/Diversity Group, Geneva, Switzerland (2019)
<https://youtu.be/7RBSEFFGXgw>
- 3rd Astrobiology School, National Observatory, Rio de Janeiro, Brazil (2018)
https://www.youtube.com/playlist?list=PLoJbRY7k3wHMsSDp-LEJ3RYEwUZn_-ylC
- Training School on Astrobiology, Vienna, Austria (2018)
- Training School on Astrobiology, Coyhaique, Chile (2017)
<http://astrobiovideo.com/en/video/127>
<http://astrobiovideo.com/en/video/118>
- Interview with Nature (2017)
- Training School and Conference on origin of Life, Quy Nhon, Vietnam (2016)
<https://www.youtube.com/watch?v=IbgnscuGxYQ&feature=youtu.be>
<https://www.youtube.com/watch?v=G9p3ntV3NpY>
- Interview by Julie Rose, Top of Minds, on BYU Radio (2017) ([audio link](#))
- Interview with Science Bites, Hawaii NPR (2016)
- Interview with Science Bites, Hawaii NPR (2015)
- Interview with Science News for Students (2015)
<https://student.societyforscience.org/article/tatooine-star-wars-planet-has-two-suns>
- Interview with Huffington Post Science (2015)
http://www.huffingtonpost.com/entry/a-10th-tatooine-discovered_55ccfc1e4b064d5910ac23a
- TV Interview with Hawaii News channel KITV (2015)
- Interview with Deutschlandfunk (Germany's NPR) (2014)
www.deutschlandfunk.de/astronomie-ein-planet-zwei-sonnen.676.de.html?dram:article_id=299293
- Interview with Nature Journal (2014)
<http://www.nature.com/news/earth-sized-exoplanet-spotted-in-star-s-habitable-zone-1.15066>
- TIME Magazine (2013)
http://content.time.com/time/video/player/0,32068,2286956635001_2141568,00.html
- TV interview with Beijing TV network (2012)
- Interview with China TV CCTV 1 (2012)
- Interview with Science News (2012)
- Interview with the ABC news (2012)
- TV Interview with Baku television (AZTV) (2011)
- Interview with Popular Mechanics magazine (2011)
- TV Interview with Hawaii News channels: KGMB, KHNL (2010)
<http://www.hawaiinewsnow.com/Global/story.asp?S=13341960>

- TV Interview with Hawaii News channel KITV (2010)
<http://www.kitv.com/video/25917272/detail.html>
- TV Interview with University of Hawaii News channel (2010)
http://ulocal.kitv.com/_CampusConnectionsNo-15mp4/video/1472440/62911.html
- Interview with Ontario radio station (2010)
- Interview with India Daily Telegraph (2010)
- Interview with Scientific American (2010)
<http://www.scientificamerican.com/article.cfm?id=exomoons-habitability>
- Interview with Sciencenews (2008)
http://www.sciencenews.org/view/generic/id/34196/title/Icy_Asteroids
- Interview with Scienceline (2007)
<http://scienceline.org/2007/12/05/double-sunrise/>
- Interview with Science Magazine (2007)
- Radio Interview with AAAS Radio (2006)
- Radio Interview with SETI Radio (2005)
http://www.ifa.hawaii.edu/%7Enader/AWA_05-10-09.mp3
- Radio Interview with KPUA Radio, Hilo, HI (2005)
- Interview with New Scientist Magazine (2005, 2006)
- Interview with Science News Magazine (2005)

Peer Review

Referee for the Astrophysical Journal, Astronomical Journal, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics, Icarus, Celestial Mechanics and Dynamical Astronomy, Journal of Geophysical Research, Journal of Advances in Space Research, Publications of the Astronomical Society of Pacific, Space Science Review, International Journal of Astrobiology, Astrobiology Journal, Astronomy and Computing, Computational Astrophysics and Cosmology,

- Member of the review panel for the
 - NASA Emerging Worlds, XRP, OSS, PAST, OPR, PGG,
 - NASA Lunar Advanced Science and Exploration Research program,
 - NASA Astrobiology Institute,
 - NASA Postdoctoral Program,
 - NSF Astronomy and Astrophysics Program,
 - Austria Science Foundation (FWF),
 - Austrian Academy of Science,
 - Belgium Funds for Scientific Research,
 - Chilean National Commission on Scientific and technology Development,
 - Croatian Unity Through Knowledge Funds,
 - European Research Council Executive Agency,
 - Georgian Science Foundation,
 - Hungarian Science Foundation
 - International Committee of the American Astronomical Society,
 - Leibniz Research Fellowship
 - F.R.S. – FNRS (Fonds National de la Recherche Scientifique)

Teaching Experiences

- Introduction to Astronomy (non-majors, undergraduate)
- Planet Formation (Graduate level)
- Solar System (Graduate level)
- Planetary Dynamics (Graduate level)
- Astrobiology (Undergraduate and Graduate levels)
- Lecturing Planet Formation, Extrasolar Planets, Solar System, and Habitability in many workshops and training schools (e.g., Brazil 2018, Austria 2018, Chile 2017, Vietnam 2016, Sweden 2015, Canary Islands 2014, Brazil 2011-3, Austria 2010)
- Calculus-Based Introductory Physics
- Algebraic-Based Introductory Physics
- Introductory Mathematics

Graduate Advisee

- James Ou (Member of PhD Committee, 2019-present)
- Denise Hung (Member of PhD committee, graduated in 2023)
- Aaron Do (2017-2018)
- Larissa Nofi (Member of PhD committee, 2016-2019)
- Louis Scuderi (Masters, graduated in 2014)
- Mahmmoudreza Oshagh (PhD, Co-advising with Nuno Santo, Univ. Porto, graduated in 2014)
- Andre Izidoro (Visiting PhD Student, Univ. Sao Paulo, Brazil, graduated in 2015)
- Heather Kaluna (Member of PhD committee, graduated in 2015)
- Andrew Mann (Member of PhD committee, graduated in 2013)
- Brendan Bowler (Member of PhD committee, graduated in 2013)
- Nicholas Moskovitz (Member of PhD committee, graduated in 2009)

Undergraduate Advisee

- Colton Carver (Iowa State University, 2025)
- Nathan Getchel (University of Hawaii-Manoa, 2023-2024)
- Jean Claude Dumaslan (University of Hawaii-Manoa, 2022-2023)
- Michael Andrew (University of Hawaii-Manoa, 2020)
- Merwan Ouldalkim (Sorbonne University, 2020)
- Jordan Jubeck (Duquesne University, 2018)
- Ajani Bakari (Chattanooga State Community College, 2018)
- Christophe Lenert (University of Leon, 2018)
- Catalina Miritescu (Caltech, 2017)
- Lucas Moda (San Paulo University, 2017)
- Mattia Pionelli (Delft University of Technology, 2016)
- Eric Sansone (Keele University, Summer Intern 2011)
- Sara Rastegar (Northwestern University)
- Stephanie Capen (University of Hawaii-Manoa, Summer Intern 2009)
- Sabrina Kirste (Planetary Institute, Berlin, Germany, 2008)
- James Haynes (Manchester Community College, Summer Intern 2007)
- Joseph Castro (University of Hawaii-Manoa, Summer Intern 2006-2007)
- Sarah Rugheimer (University of Calgary, Summer Intern 2006)
- Desiree Cotto-Figueroa (Ohio University, Summer Intern 2005)
- Adrienne Dove (University of Colorado in Boulder, Summer Intern 2005)
- Timothy Brandon Means (University of Washington-Seattle, Summer Intern 2004)
- Abigail A Fraeman (Yale University, Summer Intern 2004-2005)
- Jared Crossley (New Mexico State University, Summer Intern 2003)
- Eric Nadal (University of British Columbia, Summer Intern 2002)
- James Norwood (New Mexico State University, Summer Intern 2002)
- Ariana Gleason (University of California-Berkeley, Summer Intern 1997)