

Astronomy and Physics Departments  
University of Arizona  
933 N. Cherry Ave.  
Tucson, AZ 85721, U.S.A.

Phone: +1-520-626-8846  
Fax: +1-520-521-4721  
E-mail: [dpsaltis@email.arizona.edu](mailto:dpsaltis@email.arizona.edu)  
<http://xtreme.as.arizona.edu/~dpsaltis>

Date of birth: June 1, 1970; U.S. and Greek Citizen

## PROFESSIONAL ACTIVITIES

---

### • Employment

2013 – Present : Professor of Astronomy and Physics, University of Arizona  
2008 – 2013 : Associate Professor of Physics and Astronomy, University of Arizona  
2009 Fall : Visiting Professor (Sabbatical Leave), Harvard University  
2003 – 2008 : Assistant Professor of Physics and Astronomy, University of Arizona  
2001 – 2002 : 5-yr member, Institute for Advanced Study, Princeton, NJ  
2000 – 2001 : Post-doctoral researcher, Massachusetts Institute of Technology  
1997 – 2000 : Post-doctoral Fellow, Harvard-Smithsonian Center for Astrophysics

### • Education

1997 : Ph. D. in Astronomy, University of Illinois at Urbana-Champaign  
1994 : M. Sc. in Astronomy, University of Illinois at Urbana-Champaign  
1992 : Ptychio (B.Sc.) in Physics, with highest Distinction,  
Aristotle University of Thessaloniki, Greece

### • Honors and Awards

2016 : Radcliffe Institute Fellowship, Harvard University  
2008 : NSF CAREER Award  
2005 : Academic Prize of the Bodossaki Foundation  
1997 : Harvard-Smithsonian Prize Postdoctoral Fellowship  
1997 : Jordan S. Asketh Fellowship, University of Illinois

### • Selected Activities

2013 – Present : Science Advisory Board (Fachbeirat), Max Planck Institute, Bonn  
2011 – Present : Member of the Science Team for the Event Horizon Telescope  
2010 – Present : Member of the Science Team for ESA's LOFT mission  
2010 – Present : Member of the Science Team for NASA's NICER mission  
2011 : Organizer for "Event Horizon Telescope" Conference  
2010 : Main Organizer for "Understanding Physics with Neutron Stars" Conference  
2007 : Main Organizer for "Rethinking Gravity" Conference  
2003 : Peer Review Panel for NASA ATP program  
2003 : Organizer for IAS Workshop on Thermonuclear Bursts  
2001 : Peer Review Panel for the Chandra X-ray Observatory

## RECENT INVITED TALKS

---

- “Testing the No-Hair Theorem with the Event Horizon Telescope”,  
Talk, BlackHoleCam Mtg, Bonn, Germany, February 21-23, 2016  
Invited Talk, Dynamics at the Galactic Center, Aspen, CO, February 7-12, 2016  
Colloquium, Istanbul University, December 29, 2015  
Invited Talk, MIAPP Conference, Garching, Germany, September 6-12, 2015  
Invited Talk, Extreme Gravity Workshop, Bozeman, MT, August 20-22, 2015  
Colloquium, UCLA, May 13, 2015  
Colloquium, UC Berkeley, April 2, 2015  
Invited Talk, EHT Conference, Waterloo, Canada, November 9-14, 2014  
Invited Talk, 558th WE-Heraeus-Seminar, Germany, March 29-April 4, 2014  
Colloquium, University of Waterloo, February 28, 2013  
ITC Colloquium, Harvard University, February 7, 2013  
Invited Talk, Einstein in Prague Conference, June 25-29, 2012  
Colloquium, Max Planck Institute fur Radioastronomie, June 30, 2012  
Colloquium, U. Wisconsin, April 27, 2012  
Astro Seminar, UCSB, March 16, 2012  
Invited Talk, Astro and Cosmo Tests of GR, Tokyo, Japan, January 23-27, 2012  
Colloquium, NRAO, Socorro, NM, October 7, 2011
- “Connecting Strong-Field, Solar System, and Cosmological Tests of Gravity”,  
Invited Talk, Testing Gravity 2015, Vancouver, Canada, January 15-17, 2015  
Invited Talk, Workshop on Novel Probes of Gravity, UPenn, April 25-26, 2013  
Invited Talk, Cosmological Tests of Gravity, Oxford University, UK, March 14, 2013
- “Testing General Relativity with X-ray Observations of Neutron Stars and Black Holes”,  
3 Lectures at IUCAA School, Pune, India, Jan 17-25, 2014
- “Testing the No-Hair Theorem with Astrophysical Black Holes”,  
Invited Talk, Sackler Conference, Cambridge, MA, May 14-17, 2012  
Seminar, IoA, University of Cambridge, June 24, 2011  
Astronomy Colloquium, Ohio State University, May 5, 2011  
Colloquium, SLAC/Stanford University, March 10, 2011  
Astrophysics Seminar, Arizona State University, March 9, 2011  
Astrophysics Seminar, Case Western, November 2, 2010  
Invited Talk, Physics and Astrophysics of BHs and NSs, Bremen, July 16-17, 2010  
Invited Talk, NEB Gravity Conference, Ioannina, Greece, June 8-11, 2010  
Astronomy Colloquium, MIT, December 1, 2009  
Gravity Seminar, Princeton University, November 19, 2009  
Contributed Talk, The Energetic Cosmos, Otaru, Japan, June 29-July 1, 2009
- “Exploiting the Strong Gravitational Fields of Neutron Stars to Measure their Properties”,  
Invited Talk, Radius15, Montreal, Canada, June 30-July 2, 2015  
Strong-Field Gravity Talk, Perimeter Institute, Canada, February 28, 2013
- “Tests of GR in the X-rays with compact objects”,  
Invited Talk, 2n LOFT Science Meeting, Toulouse, September 24-27, 2012  
Invited Talk, LOFT Science Meeting, Amsterdam, October 26-28, 2011  
Invited Talk, HTRS 2011, Champery, Switzerland, February 7-11, 2011
- “Unsolved Problems in Compact Object Astrophysics”,  
Lecture in ITAP School, Turunc, Turkey, July 29, 2011

## THESES ADVISED

---

### • Ph. D. Theses

**Dr. Martin Pessah** “MHD Turbulence and Angular Momentum Transport in Accretion Disks”  
May 2007 (moved on to become a postdoctoral fellow at IAS Princeton; currently an Assistant Professor at the Niels Bohr Institute)

**Dr. Chi-Kwan Chan** “Numerical Simulations of MHD Accretion Flows”  
May 2007 (co-advised with F. Özel; moved on to become a postdoctoral fellow at the ITC Harvard and at NORDITA)

**Dr. Andras Gaspar** “Numerical Models of Debris Disks”  
November 2011 (co-advised with F. Özel and G. Rieke)

**Tim Johannsen** “Testing Gravity Theories with Black Holes”  
May 2012 (currently a postdoctoral fellow at Perimeter Institute)

**Alan Cooney** “Gravity with Perturbative Constraints”  
May 2012

**Michi Bauböck** “Ray Tracing in the Spacetimes of Rotating Neutron Stars”  
5th year student (co-advising with F. Özel)

### • Senior Theses

**Simon DeDeo** “General Relativistic Constraints on Emission Models of AXPs”  
Harvard 1999–2000 (co-advised with R. Narayan)

**Pavlin Zavov** “Eddington-Limited Bursts as Distance Estimators”  
MIT 1999–2000 (co-advised with D. Chakrabarty)

**Robert Marcus** “A 2D Algorithm for Photon Diffusion in Neutron Star Atmospheres”  
2004–2005

**Wang Can** “Viscous Damping of Oscillations in Accretion Disks”  
2007–2008

**Chris Limbach** “The Tully-Fisher Relation in Modified Gravity”  
2008–2009

**Peter Perakis** “Free-free Opacities in Astrophysical Plasmas”  
2010–2011

**Evan Tucker** “Relativistic Effects in Stellar Orbits Around Sgr A\*”  
2011–2012 (in collaboration with T. Scott Palmer)

**T. Scott Palmer** “Relativistic Effects in Stellar Orbits Around Sgr A\*”  
2011–2012 (in collaboration with Evan Tucker)

## FUNDED SCIENTIFIC PROPOSALS

---

- 2014–2019: \$ 708,160 “Event Horizon Telescope”  
 PI: S. Doeleman (SAO), Arizona PI: D. Marrone, CoIs: **Psaltis, D.**, F. Özel, L. Ziurys  
 Subaward for an NSF MSIP award
- 2015–2018: \$ 463,619 “NICER”  
 Award PI: K. Gendreau, Arizona CoPIs: **Psaltis, D.**, Özel, F.  
 subaward from a NASA SMEX award
- 2016–2017: \$ 92,000 “X-ray Variability of Sgr A\* as a Probe of Plasma Physics in  
 Accretion Flows”  
 Özel, F. (PI), **Psaltis, D.**(CoI)  
 NASA Chandra Theory Grant
- 2013–2016: \$1,500,000 “Multi-Scale Plasma Flows Around Black Holes”  
**Psaltis, D.** (coPI), F. Özel (coPI)  
 NASA/NSF TCAN, network proposal with U. Maryland and Har-  
 vard U.
- 2013–2016: \$ 489,000 “Precision Measurements of the Black-Hole Properties in the Cen-  
 ter of the Milky Way”  
**Psaltis, D.** (Arizona, PI)  
 NSF Astronomy and Astrophysics
- 2012: \$1,270,000 “MRI: Acquisition of a Graphics Processor Unit-Accelerated High  
 Performance Computer for Astrophysics”  
**Psaltis, D.** (one of four coPIs)  
 NSF MRI
- 2011–2012: \$ 208,000 “Mapping Neutron-Star Surfaces During Thermonuclear Flashes  
 using Archival RXTE Observations of Burst Oscillations”  
**Psaltis, D.** (PI) and F. Özel (Co-I)  
 NASA Astrophysics Data Analysis Program
- 2011–2012: \$ 88,000 “The apparent surface areas of spinning neutron stars”  
**Psaltis, D.**(PI) and F. Özel (Co-I)  
 NASA Chandra Theory Grant
- 2010–2011: \$ 76,000 “A Comprehensive Study of the Spectra of X-ray Bursters” F.  
 Özel (PI) and **Psaltis, D.** (Co-I)  
 NASA Chandra Theory Grant
- 2008–2013: \$ 536,000 “Exploring the Warped Spacetimes of Astrophysical Black Holes”  
**Psaltis, D.** (PI)  
 NSF CAREER Award
- 2007–2008: \$ 69,000 “Understanding the Flares of Sgr A\* through 3D Radiative Mag-  
 netohydrodynamic Simulations”  
**Psaltis, D.** (PI)  
 NASA Chandra Theory Grant
- 2003–2006: \$ 328,000 “Towards New Tests of General Relativity with Compact Objects”  
**Psaltis, D.** (PI)  
 NASA Astrophysics Theory Program

1999–2004: \$ 625,000 “Accreting Neutron Stars as Astrophysical Laboratories”  
D. Chakrabarty (MIT, PI) and **Psaltis, D.** (MIT, Co-PI)  
NASA Long-Term Space Astrophysics Program

1999–2001: \$ 306,000 “X-ray Spectra and Variability of Accreting Neutron Stars”  
F. K. Lamb (UIUC, PI) and **Psaltis, D.** (MIT/Princeton, Co-PI)  
NASA Astrophysics Theory Program

Total Funding: \$6,759,000

## Papers on the Event Horizon Telescope and the Galactic Center

1. • “Bayesian techniques for comparing time-dependent GRMHD simulations to variable Event Horizon Telescope observations”  
Kim, J., Marrone, D. P., Chan, C.-k., Medeiros, L., Ozel, F., **Psaltis, D.** 2016, *Astrophys. J.*, submitted, arXiv:1602.00692
2. • “Particle Acceleration and the Origin of X-ray Flares in GRMHD simulations of Sgr A\*”  
Ball, D., Ozel, F., **Psaltis, D.**, Chan, C.-k. 2016., *Astrophys. J.*, submitted arXiv:1602.05968
3. • “GRMHD simulations of visibility amplitude variability for Event Horizon Telescope images of Sgr A\*”  
Medeiros, L., Chan, C.-k., Ozel, F., **Psaltis, D.**, Kim, J., Marrone, D. P., Sadowski, A. 2016, *Astrophys. J.*, submitted, arXiv:1601.06799
4. • “Shapiro Delays at the Quadrupole Order for Tests of the No-Hair Theorem Using Pulsars around Spinning Black Holes”,  
Christian, P., **Psaltis, D.**, Loeb, A. 2015, *Astrophys. J.*, submitted, arXiv:1511.01901
5. • “Persistent Asymmetric Structure of Sagittarius A\* on Event Horizon Scales”,  
Fish, V. et al. 2016, *Astrophys. J.*, 820, 90
6. • “A quantitative test of the no-hair theorem with Sgr A\*, using stars, pulsars, and the Event Horizon Telescope”,  
**Psaltis, D.**, Wex, N., & Kramer, M. 2015, *Astrophys. J.*, 818, 121
7. • “Resolved Magnetic-Field Structure and Variability Near the Event Horizon of Sagittarius A\*”,  
Johnson, M. et al., 2015, *Science*, 350, 1242
8. • “Fast Variability and mm/IR flares in GRMHD Models of Sgr A\* from Strong-Field Gravitational Lensing”,  
C.-K., **Psaltis, D.**, Özel, F., Medeiros, L., Marrone, D., Sadowski, A., & Narayan, R. 2015, *Astrophys. J.*, 812, 103
9. • “A General Relativistic Null Hypothesis Test with Event Horizon Telescope Observations of the black-hole shadow in Sgr A\*”,  
**Psaltis, D.**, Özel, F., Chan, C.-K., & Marrone, D.P. 2015, *Astrophys. J.*, 814, 115
10. • “The Power of Imaging: Constraining the Plasma Properties of GRMHD Simulations using EHT Observations of Sgr A\*”,  
Chan, C.-K., **Psaltis, D.**, Özel, F., Narayan, R., Sadowski, A. 2015, *Astrophys. J.*, 799, 1
11. • “Event Horizon Telescope Evidence for Alignment of the Black Hole in the Center of the Milky Way with the Inner Stellar Disk”, **Psaltis, D.**, Narayan, R., Fish, V. L., Broderick, A. E., Loeb, A., Doeleman, S. S. 2015. *Astrophys. J.*, 798, 15
12. • “Imaging an Event Horizon: Mitigation of Scattering toward Sagittarius A\*”,  
Fish, V. L., and 12 colleagues 2014, *Astrophys. J.*, 795, 134

13. • “Testing the No-hair Theorem with Event Horizon Telescope Observations of Sagittarius A\*”,  
Broderick, A. E., Johannsen, T., Loeb, A., **Psaltis, D.** 2014, *Astrophys. J.*, 784, 7

### Papers on Computational Methods

14. • “HEROIC: 3D general relativistic radiative post-processor with comptonization for black hole accretion discs.”  
Narayan, R., Zhu, Y., **Psaltis, D.**, Sałowski, A. 2016. *MNRAS* 457, 608
15. • “HERO - A 3D general relativistic radiative post-processor for accretion discs around black holes”,  
Zhu, Y., Narayan, R., Sadowski, A., & **Psaltis, D.** 2015 *MNRAS*, 451, 1661
16. • “GRay: a Massively Parallel GPU-Based Code for Ray Tracing in Relativistic Spacetimes”,  
Chan, C.-K., **Psaltis, D.**, & Özel, F., 2013, *Astrophys. J.*, 777, 13
17. • “A Ray Tracing Algorithm for Compact Object Spacetimes with Arbitrary Quadrupole Moments. II. Neutron Stars”,  
Bauböck, M., **Psaltis, D.**, Özel, F., & Johannsen, T., 2012, *Astrophys. J.*, 753, 175
18. • “A Ray Tracing Algorithm for Compact Object Spacetimes with Arbitrary Quadrupole Moments. I. Quasi-Kerr Black Holes”,  
**Psaltis, D.**, & Johannsen, T., 2012, *Astrophys. J.*, 745, 1
19. • “Modeling Collisional Cascades in Debris Disks: The Numerical Method”  
Gaspar, A., **Psaltis, D.**, Özel, F., Rieke, G. H., & Cooney, A. 2012, *Astrophys. J.*, 749, 14
20. • “Spectral Methods for Time-Dependent Studies of Accretion Flows. III. Three-Dimensional MHD Flows”  
Chan, C.-K., **Psaltis, D.**, & Özel, F., 2009, *Astrophys. J.*, 700, 741
21. • “Spectral Methods for Time-Dependent Studies of Accretion Flows. II. Two-Dimensional Hydrodynamic Disks with Self-Gravity”  
Chan, C.-K., **Psaltis, D.**, & Özel, F., 2006, *Astrophys. J.*, 645, 506
22. • “Spectral Methods for Time-Dependent Studies of Accretion Flows. I. Two-dimensional, Viscous, Hydrodynamic Disks”,  
Chan, C.-K., **Psaltis, D.**, & Özel, F., 2005, *Astrophys. J.*, 628, 353
23. • “Radiative Transfer in Obliquely Illuminated Accretion Disks”,  
**Psaltis, D.** 2002, *Astrophys. J.*, 574, 306
24. • “Compton Scattering in Static and Moving Media. II. System-Frame Solutions for Spherically Symmetric Flows”,  
**Psaltis, D.** 2001, *Astrophys. J.*, 555, 786

### Papers on Tests of Strong-Field Gravity

25. • “Linking Tests of Gravity on All Scales: from the Strong-field Regime to Cosmology”,  
Baker, T., **Psaltis, D.**, & Skordis, C. 2015, *Astrophys. J.*, 802, 63

26. • “Deviation of Stellar Orbits from Test Particle Trajectories Around Sgr A\* Due to Tides and Winds”,  
**Psaltis, D.**, Li, G., & Loeb, A. 2013, *Astrophys. J.*, 777, 57
27. • “Testing the No-Hair Theorem with Observations in the Electromagnetic Spectrum. III. Relativistically Broadened Iron Lines”,  
Johannsen, T., & **Psaltis, D.** 2013, *Astrophys. J.*, 773, 57
28. • “The Influence of Gas Dynamics on Measuring the Properties of the Black Hole in the Center of the Milky Way with Stellar Orbits and Pulsars”,  
**Psaltis, D.**, 2012, *Astrophys. J.*, 759, 130
29. • “Masses of Nearby Supermassive Black Holes With Very-Long Baseline Interferometry”,  
Johannsen, T., Gillessen, S., **Psaltis, D.**, Marrone, D. P., Özel, F., Eisenhauer, F., Doeleman, S. S., & Fish, V. L. 2012, *Astrophys. J.*, 758, 30
30. • “A Metric for Rapidly Spinning Black Holes Suitable for Strong-Field Tests of the No-Hair Theorem”,  
Johannsen, T., & **Psaltis, D.** 2011, *Phys. Rev. D.*, 83, 124015
31. • “Sgr A\*: The Optimal Testbed of Strong Field Gravity”,  
**Psaltis, D.**, & Johannsen, T. 2011, *Journ. of Phys. Conf. Ser.*, 282, 2030 arXiv:1012.1602
32. “Testing the No-Hair Theorem with Observations in the Electromagnetic Spectrum”,  
Johannsen, T., & **Psaltis, D.** 2011, *Adv. Spac. Res.*, 47, 528
33. • “Testing the No-Hair Theorem with Observations in the Electromagnetic Spectrum. III. Quasi-Periodic Variability”,  
Johannsen, T., & **Psaltis, D.** 2011, *Astrophys. J.*, 726, 11
34. • “Testing the No-Hair Theorem with Observations in the Electromagnetic Spectrum. II. Black-Hole Images”,  
Johannsen, T., & **Psaltis, D.** 2010, *Astrophys. J.*, 718, 446
35. • “Neutron Stars in  $f(R)$  gravity with Perturbative Constraints”,  
Cooney, A., DeDeo, P., & **Psaltis, D.** 2010, *Phys. Rev. D.*, 82, 064033
36. • “Testing the No-Hair Theorem with Observations in the Electromagnetic Spectrum. I. Properties of a Quasi-Kerr Spacetime”,  
Johannsen, T., & **Psaltis, D.** 2010, *Astrophys. J.*, 716, 187
37. • “Constraining Parity Violation in Gravity with Measurements of Neutron-Star Moments of Inertia”,  
Yunes, N., **Psaltis, D.**, Özel, F., & Loeb, A. 2010, *Phys. Rev. D.*, 81, 064020
38. “Testing the No-Hair Theorem with Observations of Astrophysical Black Holes in the Electromagnetic Spectrum”,  
**Psaltis, D.**, & Johannsen, T. 2010, in *The Energetic Cosmos: From Suzaku to Astro-H*, arXiv:0912.0022
39. “Two Approaches to Testing General Relativity in the Strong-Field Regime”,  
**Psaltis, D.** 2009, in *New Developments in Gravity*, arXiv:0907.2746



40. • “Shrinking the Braneworld: Black Hole in a Globular Cluster”,  
Gnedin, O. Y., Maccarone, T. J., **Psaltis, D.**, & Zepf, S. E. 2009, *Astrophys. J.*, 705, L168
41. • “Constraints on the Size of Extra Dimensions from the Orbital Evolution of X-ray Binaries”,  
Johannsen, T., **Psaltis, D.**, & McClintock, J. E. 2009, *Astrophys. J.*, 691, 997
42. • “Probes and Tests of Strong-Field Gravity in the Electromagnetic Spectrum”,  
**Psaltis, D.** 2008, *Living Reviews in Relativity*, 11, 9
43. • “Constraining Brans-Dicke Gravity with Millisecond Pulsars in Ultracompact Binaries”,  
**Psaltis, D.** 2008, *Astrophys. J.*, 688, 1282
44. • “Kerr Black Holes are not Unique to General Relativity”,  
**Psaltis, D.**, Perrodin, D., Dienes, K., & Mocioiu, I. 2008, *Physical Review Let.*, 100, 1101
45. • “Testing General Metric Theories of Gravity with Neutron Stars”,  
**Psaltis, D.** 2008, *Physical Review D.*, 77, 4006
46. • “Constraints on Braneworld Gravity from a Limit on the Kinematic Age of XTE J1118+480”,  
**Psaltis, D.** 2006, *Phys. Rev. Lett.*, 98, 1101
47. “Measuring Black-Hole Spins and Testing General Relativity”,  
**Psaltis, D.** 2004, in *The Future of X-ray Timing, 2004 (AIP) astro-ph/0402213*
48. “Tests of Strong-Field Gravity with Compact Objects. I. Quasi Periodic Oscillations”,  
DeDeo, S., & **Psaltis, D.** 2004, *astro-ph/0405067*
49. • “Towards New Tests of Strong-field Gravity with Measurements of Surface Atomic Line  
Redshifts from Neutron Stars”,  
DeDeo, S., & **Psaltis, D.** 2003, *Phys. Rev. Lett.*, 90, 141101

#### **Papers on Cosmological Tests of Gravity**

50. • “Special and General Relativistic Effects in Galactic Rotation Curves”,  
Cooney, A., **Psaltis, D.**, & Zaritsky, D., 2013, *Astrophys. J.*, submitted, arXiv:1202.2853
51. • “Outer Galactic Disks and a Quantitative Test of Gravity at Low Accelerations”, Zaritsky,  
D., & **Psaltis, D.** 2010, *Astrophys. J.*, 720, L11
52. • “The Redshift Evolution of the Tully-Fisher Relation as a Test of Modified Gravity”,  
Limbach, C. M., **Psaltis, D.**, & Özel, F. 2008, *Astrophys. J.*, submitted, arXiv:0809.2790
53. • “Gravity with Perturbative Constraints: Dark Energy Without New Degrees of Freedom”,  
Cooney, A., DeDeo, S., & **Psaltis, D.** 2009, *Phys. Rev. D.*, 79, 044033
54. • “Stable, Accelerating Universes in Modified Gravity”,  
DeDeo, S., & **Psaltis, D.** 2008, *Physical Review D*, 78, 4013

#### **Papers on Compact Object Masses and Radii**

55. • “Measuring the neutron star equation of state using X-ray timing”  
Watts, A. L., and 17 colleagues 2016, *Reviews of Modern Physics* 88, 021001

56. • “Data Selection Criteria for Spectroscopic Measurements of Neutron Star Radii with X-ray Bursts”  
Özel, F., Psaltis, D., Guver, T. 2015, *Astrophys. J.*, submitted, arXiv:1509.02924
57. • “Model-independent inference of neutron star radii from moment of inertia measurements”  
Raithel, C. A., Özel, F., Psaltis, D. 2016, *Physical Review C* 93, 032801
58. • “The Dense Matter Equation of State from Neutron Star Radius and Mass Measurements”,  
Özel, F., **Psaltis, D.**, Guver, T., Baym, G., Heinke, C., Guillot, S. 2016, *Astrophys. J.*, 820, 28
59. • “Statistics of Measuring Neutron Star Radii: A Bayesian vs. A Frequentist Approach”,  
Özel, F. & **Psaltis, D.** 2015, *Astrophys. J.*, 810, 135
60. • “Effects of Spot Size on Neutron-Star Radius Measurements from Pulse Profiles”,  
Bauböck, M., **Psaltis, D.**, & Özel, F. 2015, *Astrophys. J.*, 811, 144
61. • “Systematic Uncertainties in the Spectroscopic Measurements of Neutron-Star Masses and Radii from Thermonuclear X-ray Bursts. III. Absolute Flux Calibration”,  
Güver, T., Özel, F., Marshall, H., **Psaltis, D.**, Guainazzi, M., & Diaz-Trigo, M. 2015, *Astrophys. J.*, submitted, arXiv:1501.05330
62. • “Rotational Corrections to Neutron-star Radius Measurements from Thermal Spectra”,  
Bauböck, M., Özel, F., **Psaltis, D.**, & Morsink, S. M. 2015, *Astrophys. J.*, 799, 22
63. • “Pulse Profiles from Spinning Neutron Stars in the Hartle-Thorne Approximation”,  
**Psaltis, D.**, & Özel, F. 2014, *Astrophys. J.*, 792, 87
64. • “Prospects for Measuring Neutron-star Masses and Radii with X-Ray Pulse Profile Modeling”,  
**Psaltis, D.**, Özel, F., & Chakrabarty, D. 2014, *Astrophys. J.*, 787, 136
65. • “Relations Between Neutron-Star Parameters in the Hartle-Thorne Approximation”,  
Bauböck, M., Berti, E., **Psaltis, D.**, & Özel, F., *Astrophys. J.*, 777, 68
66. • “Narrow Atomic Features from Rapidly Spinning Neutron Stars”,  
Bauböck, M., **Psaltis, D.**, Özel, F., *Astrophys. J.*, 766, 87
67. • “On The Mass Distribution and Birth Mass of Neutron Stars”,  
Özel, F., **Psaltis, D.**, Narayan, R., & Santos-Villareal, A., 2012 *Astrophys. J.*, 757, 55
68. • “Systematic Uncertainties in the Spectroscopic Measurements of Neutron-Star Masses and Radii from Thermonuclear X-ray Bursts. II. Eddington Limit”,  
Güver, T., Özel, F., & **Psaltis, D.** 2012, *Astrophys. J.*, 747, 77
69. • “Systematic Uncertainties in the Spectroscopic Measurements of Neutron-Star Masses and Radii from Thermonuclear X-ray Bursts. I. Apparent Radii”,  
Güver, T., Özel, F., & **Psaltis, D.** 2012, *Astrophys. J.*, 747, 76
70. • “The Black Hole Mass Distribution in the Galaxy”,  
Özel, F., **Psaltis, D.**, Narayan, R., & McClintock, J. E. 2010, *Astrophys. J.*, 725, 1918

71. • “The Massive Pulsar PSR J16142230: Linking Quantum Chromodynamics, Gamma-ray Bursts, and Gravitational Wave Astronomy”,  
Özel, F., **Psaltis, D.**, Ransom, S., Demorest, P., & Alford, M. 2010, *Astrophys. J.*, 724, L199
72. • “The Incompatibility of Rapid Rotation with Narrow Photospheric X-ray Lines in EXO 0748676”,  
Lin, J., Özel, F., Chakrabarty, D., & **Psaltis, D.** 2010, *Astrophys. J.*, 723, 1053
73. • “Reconstructing the Neutron-Star Equation of State from Astrophysical Measurements”,  
Özel, F., & **Psaltis, D.** 2009, *Phys. Rev. D.*, 80, 103003
74. • “The Mass and Radius of the Neutron Star in EXO 1745–248”,  
Özel, F., Güver, T., & **Psaltis, D.** 2009, *Astrophys. J.*, 693, 1775
75. • “Biases for neutron-star mass, radius and distance measurements from Eddington-limited X-ray bursts”,  
Galloway, D., Özel, F., & **Psaltis, D.** 2008, *MNRAS*, 387, 268

### Papers on MHD Turbulence in Accretion Disks

76. • “A High-frequency Doppler Feature in the Power Spectra of Simulated GRMHD Black Hole Accretion Disks”,  
Wellons, S., Zhu, Y., **Psaltis, D.**, Narayan, R., McClintock, J. E. 2014. *Astrophys. J.*, 785, 142
77. • “MHD Simulations of Accretion onto Sgr A\*: Quiescent Fluctuations, Outbursts, and Quasi-Periodicity”  
Chan, C.-K., Liu, S., Fryer, C.L., **Psaltis, D.**, Özel, F., and Melia, F. 2009, *Astrophys. J.*, 701, 521
78. • “The Fundamental Difference Between Alpha-Viscosity and Turbulent Magnetorotational Stresses”  
Pessah, M., Chan, C.-K., & **Psaltis, D.** 2008, *MNRAS*, 383, 683
79. • “Angular Momentum Transport in Accretion Disks: Scaling Laws in MRI-driven Turbulence”  
Pessah, M., Chan, C.-K., & **Psaltis, D.** 2007, *Astrophys. J.*, 668, L51
80. • “A Local Model for Angular Momentum Transport in Accretion Disks driven by the Magnetorotational Instability”  
Pessah, M., Chan, C.-K., & **Psaltis, D.** 2006, *Phys. Rev. Lett.*, 97, 1103
81. • “The Signature of the Magnetorotational Instability in the Reynolds and Maxwell Stress Tensors in Accretion Discs”  
Pessah, M., Chan, C.-K., & **Psaltis, D.** 2006, *MNRAS*, 372, 183
82. • “The Stability of Magnetized Rotating Plasmas with Superthermal Magnetic Fields”,  
Pessah, M., & **Psaltis, D.** 2005, *Astrophys. J.*, 628, 879
83. “The Stability of Magnetized Rotating Plasmas with Strong Toroidal Fields”,  
Pessah, M., & **Psaltis, D.** 2005, in *The Electromagnetic Spectrum of Neutron Stars*, eds. A. Baykal et al., in press

## Papers on Neutron-Star Nuclear Flashes

84. • “Thermonuclear (type-I) X-ray bursts observed by the Rossi X-ray Timing Explorer”, Galloway, D., Munro, M., Hartman, J., Savov, P., **Psaltis, D.**, & Chakrabarty, D. 2008, *Astrophys. J. Suppl.*, 179, 360
85. • “Eddington-limited X-ray Bursts as Distance Indicators. II. Compositional Effects in Bursts from 4U 1636–536”, Galloway, D., **Psaltis, D.**, Chakrabarty, D., & Munro, M. 2006, *Astrophys. J.*, 639, 1033
86. • “Eddington-limited X-ray Bursts as Distance Indicators. I. Systematic Trends and Spherical Symmetry in Bursts from 4U 1728–34”, Galloway, D., **Psaltis, D.**, Chakrabarty, D., & Munro, M. 2003, *Astrophys. J.*, 590, 999
87. • “The Frequency Stability of Millisecond Oscillations in Thermonuclear X-Ray Bursts” Munro, M., Chakrabarty, D., Galloway, D., & **Psaltis, D.** 2002, *Astrophys. J.*, 580, 1048

## Papers on Photon Transport in Accretion Flows

88. • “Constraining Radiatively Inefficient Accretion Flows with Polarization”, Ballantyne, D. R., Özel, F., & **Psaltis, D.** 2008, *ApJ*, 663, L17
89. “Spectra and Time Variability of Black-Hole Binaries in the Low/Hard State”, Kylafis, N. D., Giannios, D., & **Psaltis, D.** 2006, *Advanc. Space Research.*, 38, 2810
90. • “Spectra and time variability of galactic black-hole X-ray sources in the low/hard state”, Giannios, D., Kylafis, N. D., & **Psaltis, D.** 2004, *Astron. & Astrophys.*, 425, 163
91. “A Jet Model of Time Lags in Accreting Black-Hole Sources”, Kylafis, N. D., Giannios, D., & **Psaltis, D.** 2004, in *The Future of X-ray Timing, 2004 (AIP)*
92. • “Hybrid Thermal-Nonthermal Synchrotron Emission from Hot Accretion Flows”, Özel, F., **Psaltis, D.**, & Narayan, R. 2000, *Astrophys. J.*, 541, 234
93. “Photon Scattering by Relativistic Flows in Schwarzschild Spacetimes. I. The Generation of Power-Law Spectra”, Papathanassiou, H., & **Psaltis, D.** 2000, *astro-ph/0011447*
94. “Compton Upscattering by Accretion Flows”, **Psaltis, D.**, & Lamb, F.K. 1999, *Workshop on High Energy Processes in Accreting Black Holes*, eds. J. Poutanen & R. Svensson, p. 410
95. • “The Magnetic Fields of Neutron Stars in Low-Mass X-ray Binaries”, **Psaltis, D.**, & Lamb, F. K. 1999, *Astrophys. and Astron. Transactions*, 18, 447 (Refereed proceedings of the 4th JENAM)
96. “Magnetic Fields of Neutron Stars in Low-Mass X-ray Binaries”, **Psaltis, D.**, & Lamb, F.K. 1998, *Neutron Stars and Pulsars*, Tokyo, Japan, p. 179
97. “Compton Scattering and the X-ray Spectra of Accreting Compact Objects”, **Psaltis, D.**, & Lamb, F.K. 1998, *Proceedings of the 8th Annual Astrophysics Conference in Maryland*, p. 125

98. • “Compton Scattering in Static and Moving Media. I. The Transfer Equation and its Moments”,  
**Psaltis, D.**, & Lamb, F.K. 1997, *Astrophys. J.*, 488, 881
99. “X-ray Spectra of Neutron Stars in Low-Mass Binary Systems”,  
**Psaltis, D.**, Lamb, F.K., & Miller, G.S. 1996, in the Proceedings of the 2nd Hellenic Astronomical Conference, Thessaloniki, Greece, p. 330
100. • “X-ray Spectra of Z sources”,  
**Psaltis, D.**, Lamb, F.K., & Miller, G.S. 1995, *Astrophys. J.*, 454, L137

#### Papers on Photon Transport Around Neutron Stars

101. • “Spectral Lines from Rotating Neutron Stars”,  
 Özel, F., & **Psaltis, D.** 2003, *Astrophys. J.*, 582, L31
102. • “Constraints on Thermal Emission Models of Anomalous X-ray Pulsars”,  
 Özel, F., **Psaltis, D.**, & Kaspi, V. 2001, *Astrophys. J.*, 563, 255
103. • “General Relativistic Constraints on Emission Models of Anomalous X-ray Pulsars”,  
 DeDeo, S., **Psaltis, D.**, & Narayan, R. 2000, *Astrophys. J.*, 559, 346
104. • “Photon Propagation Around Compact Objects and the Inferred Properties of Thermally Emitting Neutron Stars”,  
**Psaltis, D.**, Özel, F., & DeDeo, S. 2000, *Astrophys. J.*, 544, 390

#### Papers on Compact-Object Variability (Theory)

105. • “Super-Keplerian Frequencies in Accretion Disks. Implications for Mass and Spin Measurements of Compact Objects from X-ray Variability Studies”,  
 Mao, S. A., **Psaltis, D.**, Milsom, J. A. 2009, *Astrophys. J.*, 703, 717
106. • “The Highest Dynamical Frequency in the Inner Region of an Accretion Disk”  
 Alpar, M. A. & **Psaltis, D.** 2008, *MNRAS*, 391, 1472
107. • “Quasi-periodic oscillations as global hydrodynamic modes in the boundary layers of viscous accretion disks”,  
 Erkut, H., **Psaltis, D.**, Alpar, M. A. 2008, *Astrophys. J.*, 687, 1220
108. • “Models of Variability of Neutron Stars and Black Holes”,  
**Psaltis, D.** 2001, *Adv. Sp. Res.*, (refereed proceedings of the COSPAR 2000 meeting) 28, 481
109. “On the Origin of Correlated Variability Frequencies in Accreting Neutron Stars and Black Holes”,  
**Psaltis, D.**, & Norman, C. 2000, astro-ph/0001391
110. • “Bounds on Neutron-Star Moments of Inertia and the Evidence for General Relativistic Frame Dragging”,  
 Kalogera, V., & **Psaltis, D.** 2000, *Phys. Rev. D.*, 61, 024009
111. • “On the Magnetospheric Beat-Frequency and Lense-Thirring Interpretations of the Horizontal Branch Oscillation in Z sources”,  
**Psaltis, D.**, Wijnands, R., Homan, J., Jonker, P. G., van der Klis, M., Miller, M. C., Lamb, F. K., Kuulkers, E., van Paradijs, J., & Lewin, W. H. G. 1999, *Astrophys. J.*, 520, 763

112. “Constraints on neutron star matter from kilohertz QPOs”,  
Lamb, F.K., Miller, M.C., & **Psaltis, D.** 1998, Proceedings of the Hirschegg '98 meeting on nuclear physics, Hirschegg, Austria
113. “The Origin of Kilohertz QPOs and Implications for Pulsars”,  
Lamb, F.K., Miller, M.C., & **Psaltis, D.** 1998, Neutron Stars and Pulsars, Tokyo, Japan, p. 89
114. “Constraints on the Equation of State of Neutron Star Matter From Observations of Kilohertz QPOs”,  
Miller, M.C., Lamb, F.K., & **Psaltis, D.** 1998, Nucl. Phys. B-Proc. Suppl. 69, 123
115. “Rapid X-ray Variability of Neutron Stars in Low-Mass Binary Systems”,  
Lamb, F.K., Miller, M.C., & **Psaltis, D.** 1998, Nucl. Phys. B-Proc. Suppl. 69, 113
116. “Constraints on Neutron Star Masses and Radii from Kilohertz QPOs”,  
Lamb, F.K., Miller, M.C., & **Psaltis, D.** 1998, Proceedings of the 8th Annual Astrophysics Conference in Maryland, p. 389
117. • “Sonic-Point Model of Kilohertz QPOs in LMXBs”,  
Miller, M.C., Lamb, F.K., & **Psaltis, D.** 1998, *Astrophys. J.*, 508, 791
118. “Sonic-Point Model of Kilohertz QPOs in LMXBs”,  
Miller, M.C., Lamb, F.K., & **Psaltis, D.** 1997, Proceedings of the 18th Texas Symposium, p. 761

#### **Papers on Compact-Object Variability (Interpretation & Observations)**

119. “The Large Observatory for X-ray Timing (LOFT)”,  
Feroci, M., et al. 2012, Proceedings of SPIE, Vol. 8443, Paper No. 8443-85
120. “The Large Observatory for X-ray Timing (LOFT)”,  
Feroci, M., et al. 2011, *Experimental Astronomy* 100
121. • “Tracing the Power-Law Component in the Energy Spectrum of Black-Hole Candidates as a Function of the QPO Frequency”  
Vignarca, F., Migliari, S., Belloni, T., **Psaltis, D.**, & van der Klis, M. 2003, *Astron. & Astrophys.*, 397, 729
122. • “A Unified Description of the Timing Features of Accreting X-ray Binaries”,  
Belloni, T., **Psaltis, D.**, & van der Klis, M. 2002, *Astrophys. J.*, 572, 392
123. • “Quasi-Periodic Variability and the Inner Radii of Accretion Disks in Galactic Black-Hole Systems”,  
Di Matteo, T., & **Psaltis, D.** 1999, *Astrophys. J.*, 526, L101
124. • “Correlations in Quasi-Periodic Oscillation and Noise-Component Frequencies Among Neutron-Star and Black-Hole X-ray Binaries”,  
**Psaltis, D.**, Belloni, T., & van der Klis, M. 1999, *Astrophys. J.*, 520, 262
125. “A varying kHz peak separation in 4U 1608-52”,  
Mendez, M., van der Klis, M., van Paradijs, J., Lewin, W.H.G., Vaughan, B.A., Kuulkers, E., Zhang, W., Lamb, F.K., & **Psaltis, D.** 1998, Proceedings of the 8th Annual Astrophysics Conference in Maryland, p. 385

126. • “Discovery of kHz QPOs in the Z source GX 5-1”,  
Wijnands, R., Mendez, M., van der Klis, M., **Psaltis, D.**, Kuulkers, E., & Lamb, F. K. 1998, *Astrophys. J.*, 504, L35
127. • “The Beat-Frequency Interpretation of KiloHertz QPOs in Neutron Star Low-Mass X-ray Binaries”,  
**Psaltis, D.**, Méndez, M., Wijnands, R., Homan, J., Jonker, P. G., van der Klis, M., Lamb, F. K., Kuulkers, E., van Paradijs, J., & Lewin, W. H. G. 1998, *Astrophys. J.*, 501, L95
128. • “Discovery of kHz QPOs in the Z source GX340+0”,  
Jonker, P.G., Wijnands, R., van der Klis, M., **Psaltis, D.**, Kuulkers, E., Lamb, F.K. 1998, *Astrophys. J.*, 499, L191
129. • “Discovery of a second kHz QPO peak in 4U 1608-52”,  
Mendez, M., van der Klis, M., van Paradijs, J., Lewin, W.H.G., Vaughan, B.A., Kuulkers, E., Zhang, W., Lamb, F.K., & **Psaltis, D.** 1998, *Astrophys. J.*, 494, L65
130. • “Discovery of KiloHertz Quasi-Periodic Oscillations in the Z source Cygnus X-2”,  
Wijnands, R., Homan, J., van der Klis, M., Kuulkers, E., van Paradijs, J., Lewin, W., Lamb, F., **Psaltis, D.**, & Vaughan, B., 1997, *Astrophys. J.*, 493, L87
131. • “Discovery of KiloHertz Quasi-Periodic Oscillations in GX 17+2”,  
Wijnands, R., Homan, J., van der Klis, M., Kuulkers, E., van Paradijs, J., Lewin, W., Lamb, F., **Psaltis, D.**, & Vaughan, B., 1997, *Astrophys. J.*, 490, L157
132. • “KiloHertz QPO and Atoll Source States in 4U 0614+09”,  
Mendez, M., van der Klis, M., van Paradijs, J., Lamb, F.K., Vaughan, B., Kuulkers, E., & **Psaltis, D.** 1997, *Astrophys. J.*, 485, L37
133. • “Discovery of Microsecond Time-Lags in KiloHertz QPOs”,  
Vaughan, B., van der Klis, M., Mendez, M., van Paradijs, J. Wijnands, R., Lewin, W.H.G., Lamb, F.K., **Psaltis, D.**, Kuulkers, E., & Oosterbroek, T. 1997, *Astrophys. J.*, 483, L115
134. • “Discovery of a Variable-Frequency, 50–60 Hz Quasi-Periodic Oscillation on the Normal Branch of GX 17+2”,  
Wijnands, R.A.D., van der Klis, M., **Psaltis, D.**, Lamb, F.K., Kuulkers, E., Dieters, S., van Paradijs, J., Vaughan, B.A., & Lewin, W.H.G. 1996, *Astrophys. J.*, 469, L5

### Other Papers

135. • “ A Hard X-Ray Power-law Spectral Cutoff in Centaurus X-4” ,  
Chakrabarty, D., and 19 colleagues, 2014, *Astrophys. J.*, 797, 92
136. • “Modeling Collisional Cascades in Debris Disks: Steep Dust-Size Distribution”  
Gaspar, A., **Psaltis, D.**, Özel, F, & Rieke, G.H. 2012, *Astrophys. J.*, 754, 74
137. • “Implications of the Narrow Period Distribution of Anomalous X-ray Pulsars and Soft Gamma-Ray Repeaters”,  
**Psaltis, D.**, & Miller, M. C. 2002, *Astrophys. J.*, 578, 325
138. • “Ultracompact X-Ray Binaries with Neon-Rich Degenerate Donors”,  
Juett, A., **Psaltis, D.**, & Chakrabarty, D. 2001, *Astrophys. J.*, 560, L59

139. “Identification of Physical Components in Pulsar Emission”,  
Seiradakis, J. H., Karastergiou, A., Kramer, M., & **Psaltis, D.** 2000, in Pulsar Astronomy and Beyond
140. • “The Disk-Magnetosphere Interaction in the Accretion-Powered Millisecond Pulsar SAX J1808.4-3658”,  
**Psaltis, D.**, & Chakrabarty, D. 1999, *Astrophys. J.*, 521, 332
141. • “Structure of the Magnetic Field Near Weakly-Magnetic Neutron Stars Accreting From Disks”,  
**Psaltis, D.**, Lamb, F.K., & Zylstra, G.J. 1996, *Astrophys. Lett. & Commun.*, 34, 377 (Refereed proceedings of the NATO ASI: Solar and Astrophysical MHD Flows)
142. • “A Strongly Magnetic Neutron Star in a Face-on Binary System”,  
Daumerie, P., Kalogera, V., Lamb, F.K., & **Psaltis, D.** 1996, *Nature*, 382, 141
143. “The moding behavior of PSR 1237+25”,  
**Psaltis, D.**, & Seiradakis, J.H. 1996, in the Proceedings of the 2nd Hellenic Astronomical Conference, Thessaloniki, Greece, p. 330
144. • “Hydromagnetic Waves and the Linewidth-Size Relation in Interstellar Molecular Clouds”,  
Mouschovias, T.Ch., & **Psaltis, D.** 1995, *Astrophys. J.*, 444, L105

#### Chapters in Books

145. “Accreting Neutron Stars and Black Holes: A Decade of Discoveries”,  
**Psaltis, D.** 2006, Chapter 1 in *Compact Stellar X-ray Sources*, eds. W. H. G. Lewin and M. van der Klis (Cambridge: University Press), astro-ph/0410536