Bence Kocsis CV

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Status Associate professor at University of Oxford

Personal Born: Budapest, Hungary
Languages: Hungarian (native), English (fluent), German (basic)

Education

2006 – 2007	Smithsonian Astrophysical Observatory Predoctoral ITC Fellow
2004 – 2007	PhD in Astrophysics, Eötvös University, Hungary Thesis: *Astrophysical Applications of Gravitational Waves* Advisors: Zsolt Frei (Eötvös), Zoltan Haiman (Columbia)
1999 – 2004	M.S. in Physics, Eötvös University, Budapest, Hungary Thesis: *The Detection of Cluster Edges with the Sunyaev Zel'dovich Effect* Advisors: Zsolt Frei (Eötvös) and Zoltan Haiman (Columbia)
1998 – 1999	Harvard Extension School

Positions

2020 –	Associate professor, University of Oxford
2017 –	Gravitational Wave Astrophysics Dynamics COST Action Group Leader
2015 –	GALNUC ERC Research Group Leader
2015 – 2021	Assistant professor, Eötvös University
2009 – 2013	NASA Einstein Fellow and ITC Postdoctoral Fellow, Harvard
2008–09, 13–15	3-year member of the Institute for Advanced Study, Princeton
2007 – 08	ITC Postdoctoral Fellow, Harvard

Grants/Research Scholarships

2017–2019	NKFI-KH17 Funding of internationally outstanding research (20 million HUF)
2015–2020	ERC Starting Grant (1.5 million EUR)
2013–15, 08–09	Institute for Advanced Study, 3-year Member Fellowship
2012 – 2013	Harvard ITC Fellowship
2009 – 2012	NASA Einstein Fellowship (337,435 USD)
2007 – 2008	Harvard ITC Fellowship
2006 – 2007	NKTH Öveges József Scholarship (24,800 EUR)
2003	Summer Undergraduate Research Foundation Fellowship, LIGO, Caltech (5,000 USD)
2002 – 2004	Student-Scholar of the Hungarian Republic Award (2,400 EUR)

Awards

Prima Primissima Junior Prize (highest honor in Hungary below age 30), 2008
Honorable Mention, Gravitational Wave International Committee Thesis Prize, 2008
1st prize, Best Publication Award, Nat. Soc. of the Hungarian Grad. Students, 2007, 2006
3rd prize for the presentation at Virgo-VESF School on Gravitational Waves, 2006
Excellence in Undergradual Studies Award, Eötvös University, Faculty of Sciences, 2004
1st prize, NyIFFF National Team Competition of Experimental Physics, 2004, 2003
1st prize (Solid State Physics), National College Science Workshop, 2003
2nd prize, Science Workshop of the Eötvös University in Physics, 2002, 2001
1st prize, Ortvay International College Competition in Physics, 2001, 2000
(highest score in the 32-year history of the competition)

Research

2009 –	Statistical mechanics of galactic nuclei and globular clusters
2009 –	Stellar dynamics in the Galactic center and globular clusters
2011 –	Secular dynamics of hierarchical triples
2017 –	Dynamics of stellar triples and quadruples
2010 –	Stellar mass objects embedded in accretion disks – observables and migration
2003 –	Gravitational wave sources for LIGO, LISA, and Pulsar Timing Arrays
2016 – 2017	Primordial black holes
2015 – 2018	Globular cluster galaxy coevolution
2017 – 2018	Tidal disruption events from globular clusters
2017 – 2018	Intermediate mass black holes in globular clusters
2015	Gamma ray excess in the galactic center
2011 – 2014	Stellar transits in active galactic nuclei
2008 – 2014	Electromagnetic counterparts of merging black holes
2008 – 2014	Interaction of gravitational waves with matter
2008	Transiting extrasolar planets
2006	Self-gravitational contraction of gravitational wave packets
2003 – 2004	Virialization shocks of galaxy clusters and the Sunyaev-Zeldovich effect
2002 – 2003	Magnetic quantum antidots
2002	Chaos in celestrial mechanics (summer student at Harvard CfA)
2002	Maximum time travel in the twin paradox

Teaching Experience

Mathematical Methods Tutorial, St. Hugh's College Oxford 2020 MT
Thermal and Statistical Physics Tutorial, St. Hugh's College Oxford 2020 MT
Symmetries and Relativity Tutorial, St. Hugh's College Oxford 2020 MT
Topics in Astrophysics, Eötvös U., 2020 Spring
Galactic Dynamics, Eötvös U., 2019, 2017, 2016 Spring

Introduction to Astrophysics, Eötvös U., 2018 Fall

Black Hole Physics, Eötvös U., 2018, 2017, 2015 Fall

Astrophysics Seminar, Eötvös U., 2018, 2017, 2016, 2015 Fall

Topics in Cosmology, Princeton Senior Resource Center, 2015 Spring

Ortvay Problem-solving Seminar (course founder), Eötvös U., 2006 Spring

Astrophysics Laboratory, Eötvös U., 2005 Fall

Theoretical Physics Seminar – Electrodynamics, Eötvös U., 2005 Spring

Theoretical Physics Seminar – Mechanics, Eötvös U., 2004 Fall

Mentoring

Graduate student advisor (exp. year of graduation): Connar Rowan (2023), Gergely Máthé (2022), Barnabás (2022), Ákos Szölgyën (2021)

Graduate student coadvisor: Ádám Takács (2022), László Gondán (2020), Bence Béky (Harvard 2013, now at Google), Gongjie Li (Harvard 2016, now professor at Georgia Tech.), Ryan O'Leary (2011 Harvard, now at Google), Balázs Mikóczi (2011 U. Szeged, now researcher at Wigner Institute of Physics)

masters student advisor: Kristóf Jakovác (2019), Gergely Máthé (2018), Deme Barnabás (2018), Ákos Szölgyën (2017)

Professional Activities

Journal referee (Science, ApJ, MNRAS, PRL, PRD, CQG), book reviewer (WILEY-VCH, Cambridge Univ. Press)

Chandra grant review panelist, NASA grant review panelist, NSF grant reviewer, Hungarian NSF (OTKA) grant reviewer

Harvard Visitor Committee 2012-2013

Institute for Advaced Study Informal Seminar Series Organizer 2013-2014

Eötvös U. Astrophysics Pizza Seminar Organizer 2015-2017

Institute Committee member, Physics Institute of Eötvös University 2016-2017

Conference Organizer

Unsolved Problems in Astrophysics, Budapest, July 2018

Young Astronomers on Galactic Nuclei, Budapest, October 2018

Publications Summary

78 refereed (+3 submitted) papers, 20 first author in ApJ, MNRAS, SSR, PRD, PRB, and PRL, 2 review, 1 book chapter

4196 ADS citations; H index 39; 1183 ADS normalized citations per author, normalized H index per author 20

66/30/9 papers with over 10/50/100 citations

Refereed Publications

81. *"High Eccentricities and High Masses Characterise Gravitational-wave Captures in Galactic Nuclei as Seen by Earth-based Detectors"*, L. Gondan, **B. Kocsis**, 2020, arxiv:2011.02507

80. *"Eccentric Black Hole Mergers in Active Galactic Nuclei"*, H. Tagawa, **B. Kocsis**, Z. Haiman, I. Bartos, K. Omukai, J. Samsing, 2020, arxiv:2010.10526

79. *"Active Galactic Nuclei as Factories for Eccentric Black Hole Mergers"*, J. Samsing, I. Bartos, D. J. D'Orazio, Z. Haiman, **B. Kocsis**, N. W. C. Leigh, B. Liu, M. E. Pessah, H. Tagawa, 2020, arxiv:2010.09765

78. *"Detecting Kozai-Lidov Imprints on the Gravitational Waves of Intermediate-mass Black Holes in Galactic Nuclei"*, B. Deme, B-M. Hoang, S. Naoz, **B. Kocsis**, 2020, ApJ, 901, 125

77. *"Binary Intermediate-mass Black Hole Mergers in Globular Clusters"*, A. Rasskazov, G. Fragione, **B. Kocsis**, 2020, ApJ, 899, 149

76. *"Spin Evolution of Stellar-mass Black Hole Binaries in Active Galactic Nuclei"*, H. Tagawa, Z. Haiman, I. Bartos, **B. Kocsis**, 2020, ApJ, 898, 25

75. *"Formation and Evolution of Compact-object Binaries in AGN Disks"*, H. Tagawa, Z. Haiman, **B. Kocsis**, 2020, ApJ, 898, 25

74. *"Cosmic Evolution of Stellar-mass Black Hole Merger Rate in Active Galactic Nuclei"*, Y. Yang, I. Bartos, Z. Haiman, **B. Kocsis**, S. Marka, H. Tagawa, 2020, ApJ, 896, 138

73. *"Electromagnetic transients and gravitational waves from white dwarf disruptions by stellar black holes in triple systems"*, G. Fragione, B. D. Metzger, R. Perna, N. W. C. Leigh, **B. Kocsis**, 2020, MNRAS, 495, 1061

72. *"Effective spin distribution of black hole mergers in triples"*, G. Fragione, **B. Kocsis**, 2020, MNRAS, 493, 3920

71. *"Intermediate-mass Black Holes' Effects on Compact Object Binaries"*, B. Deme, Y. Meiron, **B. Kocsis**, 2020, ApJ, 892, 130

70. *"Making a Supermassive Star by Stellar Bombardment"*, H. Tagawa, Z. Haiman, **B. Kocsis**, 2020, ApJ, 892, 36

69. *"GW170817A as a Hierarchical Black Hole Merger"*, V. Gayathri, I. Bartos, Z. Haiman, S. Klimenko, **B. Kocsis**, S. Marka, Y. Yang, 2020, ApJ, 890, 20

68. *"Anisotropic Mass Segregation in Rotating Globular Clusters"*, A. Szolgyen, Y. Meiron, **B. Kocsis**, 2019, ApJ, 887, 123

67. *"Hierarchical Black Hole Mergers in Active Galactic Nuclei"*, Y. Yang, I. Bartos, V. Gayathri, K. E. S. Ford, Z. Haiman, S. Klimenko, **B. Kocsis**, S. Marka, Z. Marka, B. McKernan, R. O'Shaughnessy, 2019, PRL, 123, 181101

66. *"Tidal disruption events on to stellar black holes in triples"*, G. Fragione, N. W. C. Leigh, R. Perna, **B. Kocsis**, 2019, MNRAS, 489, 727

65. *"Localization of Binary Black-Hole Mergers with Known Inclination"*, K. R. Corley, I. Bartos, L. P. Singer, A. R. Williamson, Z. Haiman, **B. Kocsis**, S. Nissanke, Z. Marka, S. Marka, 2019, ApJ, 488, 4459

64. *"The Rate of Stellar Mass Black Hole Scattering in Galactic Nuclei"*, A. Rasskazov & **B. Kocsis**, 2019, ApJ, 881, 20

63. *"Black hole mergers from quadruples"*, G. Fragione & **B. Kocsis**, 2019, MNRAS, 486, 4781

62. *"Black holes, gravitational waves and fundamental physics: a roadmap"*, L. Barack, et al.; chapter I.5 by A. Askar & **B. Kocsis**, 2019, CQG, 36, 143001

61. *"Resonant relaxation in globular clusters"*, Y. Meiron & **B. Kocsis**, 2019, ApJ, 878, 138

60. *"AGN Disks Harden the Mass Distribution of Stellar-mass Binary Black Hole Mergers "*, Y. Yang, I. Bartos, Z. Haiman, **B. Kocsis**, Z. Marka, N. C. Stone, S. Marka, 2019, ApJ, 876, 122

59. *"Detecting Supermassive Black Hole-Induced Binary Eccentricity Oscillations with LISA "*, B-M. Hoang, S. Naoz, **B. Kocsis**, W. Farr, J. McIver, 2019, ApJ, 875, 31

58. *"Measurement Accuracy of Inspiraling Eccentric Neutron Star and Black Hole Binaries Using Gravitational Waves"*, L. Gondan & **B. Kocsis**, 2019, ApJ, 871, 178

57. *"On the rate of black hole binary mergers in galactic nuclei due to dynamical hardening"*, N. W. C. Leigh, A. M. Geller, B. McKernan, K. E. S. Ford, M.-M. Mac Low, J. Bellovary, Z. Haiman, W. Lyra, J. Samsing, M. O'Dowd, **B. Kocsis**, S. Endlich 2018, MNRAS, 474, 5672

56. *"Constraining Stellar-mass Black Hole Mergers in AGN Disks Detectable with LIGO"*, B. McKernan, K. E. S. Ford, J. Bellovary, N. W. C. Leigh, Z. Haiman, **B. Kocsis**, et al., 2018, ApJ, 866, 66

55. *"Tidal Disruption Events and Gravitational Waves from Intermediate Mass Black Holes in Evolving Globular Clusters Across Space and Time"*, G. Fragione & **B. Kocsis**, 2018, ApJ, 867, 119,

54. *"Black hole mergers from an evolving population of globular clusters"*, G. Fragione & **B. Kocsis**, 2018, PRL, 121, 161103

53. *"Ordering the chaos: stellar black hole mergers from non-hierarchical triples"*, M. Arca-Sedda, G. Li, & **B. Kocsis**, 2018, submitted to MNRAS, arXiv:1803.07090

52. **(*) *"Disks of black holes in galactic nuclei"*, A. Szolgyen & B. Kocsis, 2018, PRL, 121, 101101**

51. *"Compact object mergers driven by gas fallback"*, H. Tagawa & **B. Kocsis**, 2018, PRL, 120, 261101

50. *"Diffusion and mixing in globular clusters"*, Y. Meiron & **B. Kocsis**, 2018, ApJ, 855, 87

49. *"Isotropic-Nematic Phase Transitions in Gravitational Systems II: Higher Order Multipoles"*, A. Takacs & **B. Kocsis**, 2018, ApJ, 856, 113

48. *"Gravitational Waves and Intermediate Massive Black Hole Retention in Globular Clusters"*, G. Fragione, I. Ginsburg, **B. Kocsis**, 2018, ApJ, 856, 92

47. *"Hidden universality in the merger rate distribution in the primordial black hole scenario"*, **B. Kocsis**, T. Suyama, T. Tanaka, & S. Yokoyama, 2018, ApJ, vol. 854, p. 41

46. *"Gamma-ray and X-ray emission from the Galactic centre: hints on the nuclear star cluster formation history"*, M. Arca-Sedda, **B. Kocsis**, T. Brandt, 2018, MNRAS, 479, 900

45. *"Black Hole Mergers in Galactic Nuclei Induced by the Eccentric Kozai-Lidov Effect"*, B. Hoang, S. Naoz, **B. Kocsis**, F. A. Rasio, & F. Dosopoulou, 2018, ApJ, 856, 140

44. *"Eccentric Black Hole Gravitational-Wave Capture Sources in Galactic Nuclei: Distribution of Binary Parameters"*, L. Gondan, **B. Kocsis**, P. Raffai, & Z. Frei 2018, ApJ, vol. 860, p. 5

43. *"Accuracy of Estimating Highly Eccentric Binary Black Hole Parameters with Gravitational-Wave Detections"*, L. Gondan, **B. Kocsis**, P. Raffai, & Z. Frei 2018, ApJ, vol. 855, p. 34

42. *"Testing the binary hypothesis: pulsar timing constraints on supermassive black hole binary candidates"*, A. Sesana, Z. Haiman, **B. Kocsis**, & L. Z. Kelley, 2018, ApJ, vol. 856, p. 42

41. **(*) *"Isotropic-Nematic Phase Transitions in Gravitational Systems"*, Z. Roupas, B. Kocsis, & S. Tremaine, 2017, ApJ, vol. 842, p. 90**

40. *"Rapid and Bright Stellar-mass Binary Black Hole Mergers in Active Galactic Nuclei"*, I. Bartos, **B. Kocsis**, Z. Haiman, & S. Marka 2017, ApJ, vol. 835, p. 165

39. *"Detecting Triple Systems with Gravitational Wave Observations"*, Y. Meiron, **B. Kocsis**, A. Loeb, 2017, ApJ, vol. 834, p. 200

38. *"Merging binaries in the Galactic Center: the eccentric Kozai-Lidov mechanism with stellar evolution"*, A. P. Stephan, S. Naoz, A. M. Ghez, G. Witzel, B. N. Sitarski, T. Do, & **B. Kocsis**, 2016, vol. 460, p. 3494

37. *"Dynamical Formation Signatures of Black Hole Binaries in the First Detected Mergers by LIGO"*, R. M. O'Leary, Y. Meiron, & **B. Kocsis**, 2016, vol. 824, p. 12

36. **(*) *"Disrupted Globular Clusters Can Explain the Galactic Center Gamma Ray Excess"*, T. Brandt & B. Kocsis, 2015, vol. 812, p. 15**

35. "Implications of the eccentric Kozai-Lidov mechanism for stars surrounding supermassive black hole binaries", G. Li, S. Naoz, **B. Kocsis**, & A. Loeb, 2015, ApJ, vol. 451, p. 1341

34. **(*) "A numerical study of vector resonant relaxation", B. Kocsis & S. Tremaine, 2015, MNRAS, vol. 451, p. 1341**

33. "Stars as resonant absorbers of gravitational waves", B. McKernan, K. E. S. Ford, **B. Kocsis**, & Z. Haiman, 2014, MNRAS, vol. 445, p. 74

32. "Eccentricity growth and orbit flip in near-coplanar hierarchical three body systems", G. Li, S. Naoz, **B. Kocsis**, & A. Loeb, 2014, ApJ, vol. 785, p. 116

31. *"Intermediate mass black holes in AGN disks II. Model predictions and observational constraints"*, B. McKernan, K.E.S. Ford, **B. Kocsis**, W. Lyra, H.B. Perets & L.M. Winter, 2014, MNRAS, 441, 900

30. *"Menus for Feeding Black Holes"*, **B. Kocsis** & A. Loeb, 2014, Space Science Reviews, vol. 183, p. 163

29. *"Gas Cloud G2 can Illuminate the Black Hole Population near the Galactic Center"*, I. Bartos, Z. Haiman, **B. Kocsis**, & S. Márka, 2013, PRL, vol. 110, id. 221102

28. *"Ripple effects and oscillations in the broad FeKa line as a probe of massive black hole mergers"*, B. McKernan, K.E.S. Ford, **B. Kocsis**, & Z. Haiman, 2013, MNRAS, vol. 432, p. 1468

27. *"High Frequency Gravitational Waves from Supermassive Black Holes: Prospects for LIGO–Virgo Detections"*, **B. Kocsis**, 2013, ApJ, vol. 763, p. 122

26. *"Stellar Transits in Active Galactic Nuclei"*, B. Béky & **B. Kocsis**, 2013, ApJ, vol. 762, p. 35

25. *"Resonant Post-Newtonian Eccentricity Excitation in Hierarchical Three-body Systems"*, S. Naoz, **B. Kocsis**, A. Loeb, & N. Yunes, 2013, ApJ, vol. 773, p. 187

24. *"Parameter estimation for inspiraling eccentric compact binaries including pericenter precession"*, B. Mikóczi, **B. Kocsis**, P. Forgács, & M. Vasúth, 2012, PRD, vol. 86, Issue 10, id. 104027

23. *"Gas pile-up, gap overflow, and Type 1.5 migration in circumbinary disks: application to supermassive black hole binaries"*, **B. Kocsis**, Z. Haiman, & A. Loeb, 2012, MNRAS, vol. 427, Issue 3, p. 2680-2700

22. *"Gas pile-up, gap overflow, and Type 1.5 migration in circumbinary disks: general theory"*, **B. Kocsis**, Z. Haiman, & A. Loeb, 2012, MNRAS, vol. 427, Issue 3, p. 2660-2679

21. *"Gravitational Wave Heating of Stars and Accretion Disks"*, G. Li, **B. Kocsis**, & A. Loeb, 2012, MNRAS, vol. 425, Issue 4, p. 2407-2412

20. *"Mapping the Galactic Center with Gravitational Wave Measurements using Pulsar Timing"*, **B. Kocsis**, A. Ray, & S. Portegies Zwart, 2012, ApJ, vol. 752, Issue 1, id. 67

19. *"Repeated Bursts from Relativistic Scattering of Compact Objects in Galactic Nuclei"*, **B. Kocsis** & J. Levin, 2012, PRD, vol. 85, id. 123005.

18. *"Observable Signatures of EMRI Black Hole Binaries Embedded in Thin Accretion Disks"*, **B. Kocsis**, N. Yunes, & A. Loeb, 2011, PRD., vol. 84, Issue 2, id. 024032.

17. *"Imprint of Accretion Disk-Induced Migration on Gravitational Waves from Extreme Mass Ratio Inspirals"*, N. Yunes, **B. Kocsis**, A. Loeb, & Zoltan Haiman, 2011, PRL, vol. 107, id. 171103.

16. *"Resonant relaxation and the warp of the stellar disc in the Galactic Centre"*, **B. Kocsis** & S. Tremaine, 2011, MNRAS, vol. 412, Issue 1, p. 187-207

15. *"Gas driven massive black hole binaries: signatures in the nHz gravitational wave background"*, **B. Kocsis** & A. Sesana, 2011, MNRAS, vol. 411, Issue 3, p. 1467-1479

14. *"All-Sky LIGO Search for Periodic Gravitational Waves in the Early Fifth-Science-Run Data"*, B. P. Abott et al., 2009, PRL, vol. 102, Issue 11, id. 111102

13. *"The Population of Viscosity- and Gravitational Wave-driven Supermassive Black Hole Binaries Among Luminous Active Galactic Nuclei"*, Z. Haiman, **B. Kocsis**, & K. Menou, 2009, ApJ, vol. 700, Issue 2, p. 1952-1969

12. **(*) *"Gravitational waves from scattering of stellar-mass black holes in galactic nuclei"*, R. M. O'Leary, B. Kocsis, & A. Loeb, 2009, MNRAS, vol. 395, Issue 4, p. 2127-2146**

11. *"Identifying decaying supermassive black hole binaries from their variable electromagnetic emission"*, Z. Haiman, **B. Kocsis**, K. Menou, Z. Lippai, & Z. Frei, 2009, CQG, vol. 26, Issue 9, p. 094032

10. *"Periastron precession measurements in transiting extrasolar planetary systems at the level of general relativity"*, A. Pál & **B. Kocsis**, 2008, MNRAS, vol. 389, p. 191-198.

9. *"Brightening of an accretion disk due to viscous dissipation of gravitational waves during the coalescence of supermassive black holes"*, **B. Kocsis** & A. Loeb, 2008, PRL, vol. 101, id. 041101.

8. *"Premerger localization of gravitational wave standard sirens with LISA: triggered search for an electromagnetic counterpart"*, **B. Kocsis**, Z. Haiman, & K. Menou, 2008, ApJ, vol. 684, p. 870-887.

7. *"Cosmological physics with black holes (and possibly white dwarfs)"*, K. Menou, Z. Haiman, & **B. Kocsis**, 2008, New Astron. Rev., vol. 51, Issue 10-12, p. 884-890.

6. *"Distortion of gravitational wave packets due to their self-gravity"*, **B. Kocsis** & A. Loeb, 2007, PRD, vol. 76, id. 084022.

5. *"Premerger localization of gravitational-wave standard sirens with LISA: harmonic mode decomposition"*, **B. Kocsis**, Z. Haiman, K. Menou, & Z. Frei, 2007, PRD, vol. 76, id. 022003.

4. *"Detection rate estimates of gravitatonal waves emitted during parabolic encounters of stellar black holes in globular clusters"*, **B. Kocsis**, M. E. Gáspár, & S. Márka, 2006, ApJ, vol. 648, p. 411-429.

3. *"Finding the electromagnetic counterparts of cosmological standard sirens"*, **B. Kocsis**, Z. Frei, Z. Haiman, & K. Menou, 2006, ApJ, vol. 637, p. 27-37.

2. *"Can virialization shocks be detected around galaxy clusters through the Sunyaev-Zel'dovich effect"*, **B. Kocsis**, Z. Haiman, & Z. Frei, 2005, ApJ, vol. 623, p. 632-649.

1. *"Quantum and semiclassical study of magnetic quantum dots"*, **B. Kocsis**, G. Palla, & J. Cserti, 2005, PRB, vol. 71, id. 075331.

Book Chapters

1. "Menus for Feeding Black Holes", published in hardcover book "The Physics of Accretion onto Black Holes", 2015, Eds. M. Falanga, R. Belloni, P. Casella, M. Gilfanov, P. Jonker, A. King, Springer

Selected Invited Conference Talks

39. Bence Kocsis, Modern theories of gravity, Hungarian Academy of Sciences, Budapest, Hungary, May 2019

38. Astrophysics with Gravitational-Wave Populations, Aspen, USA, February 2019.

37. MWStreams: Survival of Dense Star Clusters in the Milky Way System, MPIA Heidelberg, Germany, November 2018

36. MODEST18, Santorini, Greece, June 2018.

35. Gravity@Malta, Malta, Jan 2018.

34. Harvard Sackler Conference Gravitational Wave Astrophysics, Harvard, Cambridge, MA, May. 2018.

33. Stellar Dynamics in Galactic Nuclei, IAS, Princeton, NJ, Nov. 2017.

32. MODEST17, Prague, Chechia, Sep. 2017.

31. Astrophysics of Gravitational Radiation Sources and Multimessenger Astronomy in the Era of LIGO Detections, Aspen, CO, July 2017.

30. The Dawning Era of Gravitational Wave Astrophyics, Aspen, CO, Feb. 2017.

29. 100 éves a relativitáselmélet, NKE, Budapest, Hungary, Nov. 2016.

28. Magyar Fizikus Vándorgyülés, Szeged, Hungary, Aug. 2016.

27. Gravitációs hullámok felfedezése, Hungarian Academy of Sciences, Hungary, May 2016.

26. The secular evolution of self-gravitating systems over cosmic ages, Paris, France, May 2016.

25. MTA Statistical Physics Day, Hungarian Academy of Sciences, Hungary, April 2016.

24. Dynamics and accretion at the Galactic Center, Aspen, CO, Feb. 2016.

23. 28th Texas Symposium on Relativistic Astrophysics, Geneva, Switzerland, 2015.
22. Alajar Meeting, Alajar, Spain, Oct. 2015.
21. Supermassive Black Hole Binaries, Las Cruces, Chile, 2014.
20. 27th Texas Symposium on Relativistic Astrophysics, Dallas, TX, 2013.
19. Gravitational-wave Science Workshop, South Padre, TX, 2013.
18. Black Hole Fingerprints: Dynamics, Disruptions and Demographics, Snowbird, UT, 2013.
17. The Physical Applications of Millisecond Pulsars, Aspen, CO, 2013.
16. ISSI Workshop on The Physics of Accretion onto Black Holes, Bern, Switzerland, 2012.
15. The Physics of Astronomical Transients, Aspen, CO, 2012.
14. Sackler Conf.: Testing General Relativity (GR) with Astrophysical Systems, Harvard, 2012.
13. Einstein Symposium, at NASA Goddard in 2011, and at Harvard in 2009 and 2010.
12. International Pulsar Timing Array Workshop, Snowshoe, WV., 2011.
11. Galaxy and Black Hole Coevolution, Aspen, CO, 2011.
10. Unsolved Problems in Astrophysics and Cosmology, Benqasque, Spain, 2011.
9. From Planets to Galaxies, Budapest, Hungary, 2010.
8. Central Massive Objects, ESO Garching, Germany, 2010.
7. Sackler Conf.: Dynamics from the Galactic Center to the Milky Way Halo, Harvard, 2010.
6. Stars and Singularities, Rehovot, Israel, 2009.
5. Astrophysics with Radio and Gravitational-Wave Observations, Charlottesville, VA, 2008.
4. XXIV Texas Symposium on Relativistic Astrophysics, Vancouver, Canada, 2008.
3. Merging Black Holes in Galaxies, Katoomba, Australia, 2008.
2. Gravitational Wave Astronomy Aspen Summer Workshop, Aspen, CO, 2008.
1. Measurments and Einstein's Theory of Gravity, Gyöngyöstarján, Hungary, August 2006.

Selected Invited Colloquia

54. ITC Colloquium, Harvard, November 2020

53. Astrophysics Colloquium, Harvard, November 2020
52. Astrophysics Colloquium, Oxford, November 2020
51. Informal Seminar, Institute for Advanced Study, USA, September 2020
50. Konkoly Seminar, Hungary, February 2020
49. CSH-CEH Virtual Seminar Series, University of Bern, Switzerland, April 2020
48. Physics Seminar, Bolyai College, Hungary, October 2019
47. Astrophysics Colloquium, Kyoto University, Kyoto, Japan, July 2019
46. Santa Barbara Astro Lunch, UCSB, Santa Barbara, USA, May 2019
45. Special seminar, Oxford Department of Physics, May 2019
44. Astrophys. and Cosm. Relativity Seminar, AEI, Potsdam, Germany, Mar. 2019.
43. CERN Particle and Astro-particle Seminar, Geneva, Jan. 2019.
42. CERN Cosmo Coffee, Geneva, Jan. 2019.
41. ELFT Summer School, Matrahaza, Hungary, Oct. 2018.
40. DARK Niels Bohr Institute Seminar, Copenhagen, Oct. 2017.
39. Black Hole Initiative Colloquium, Harvard, Feb. 2017.
38. Particle Physics Seminar, Eötvös University, Hungary, Nov. 2016.
37. Physics Seminar, Sapienza Univeristy of Rome, Italy, Nov. 2016.
36. Physics Colloquium, University of Bern, Switzerland, Oct. 2016.
35. Wigner SZFI Seminar, Wigner Institute, Hungary, Oct. 2016.
34. Astrophysics Colloquium, Kyoto University, Japan, July 2016.
33. RESCEU Colloquium, University of Tokyo, Japan, June 2016.
32. Statistical Physics Seminar, Eötvös University, Hungary, April 2016.
31. Physics Seminar, Bolyai College, Hungary, Mar. 2016.
30. Astrophysics Seminar, Konkoly Observatory, Hungary, Nov. 2015.
29. Astrophysics Colloquium, Leiden, Netherlands, Oct. 2015.
28. Ortvay Colloquium, Eötvös University, Hungary, Sep. 2015.
27. Evergreen Forum Topics in Cosmology, Princeton Senior Resource Center, Apr. 2015.
26. Astronomy Colloquium, Columbia, Feb. 2015.
25. Astrophysics Seminar, CITA, Toronto, Nov. 2014.

24. Astronomy Colloquium, Columbia, Nov. 2014.
23. Penn State Univ., April 2014.
22. Astrophysics Seminar Series, Institute for Advanced Study, May 2014.
21. Princeton Center for Theoretical Sciences, April 2014.
20. CGCA Seminar, UWisconsin, May 2013.
19. Wunch Seminar, Princeton, April 2013.
18. CIERA Seminar, Northwestern, February 2013.
17. TASC Seminar, UC Santa Cruz, December 2012.
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15. GRAILS Seminar, MIT, May 2011.
14. TAC Seminar, Berkeley, May 2011.
13. Particle Seminar, Columbia, March 2011.
12. CCRG Seminar, Rochester Institute of Technology, January 2011.
11. GRAILS Seminar, MIT, December 2010.
10. Astrophysics Seminar Series, Institute for Advanced Study, April 2009.
9. CFA Postdoc Symposium, Harvard, October 2009.
8. Gravity Theory Seminar, Univeristy of Maryland, May 2009.
7. Friday Seminar, KICP Univeristy of Chicago, April 2009.
6. Physics Seminar, Columbia, NY, March 2009.
5. Lunch Seminar, Eötvös University, Hungary, July 2008.
4. University of Melbourne, Australia, June 2008.
3. NASA Space Flight Center, Goddard, MD, April 2008.
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