jb manchak

logic and philosophy of science, uc irvine

education

ph.d. philosophy, uc irvine, 2009
b.s. physics, brigham young university, 2004
b.a. philosophy, brigham young university, 2004

appointments

professor of logic and philosophy of science, uc irvine, 2017–
affiliate professor of religious studies, uc irvine, 2019–
affiliate professor of philosophy, uc irvine, 2024–

previous appointments

associate professor of logic and philosophy of science, uc irvine, 2015–2017
associate professor of philosophy, university of washington, 2013–2014
assistant professor of philosophy, university of washington, 2009–2013

areas of specialization

philosophy of physics, philosophy of science

areas of competence

logic, zen buddhism

books

1. *global spacetime structure*. cambridge university press (2020).

papers (*=peer reviewed)

43. "modal symmetry and modal structure." (with t. barrett), forthcoming in *philosophy of science*.*

42. "deterministic theories." (with h. halvorson and j. weatherall), forthcoming in *philosophy and phenomenological research*.*

41. "an extendible spacetime without closed timelike curves whose every extension contains closed timelike curves." (with h. andréka, j. madarász, i. németi, and g. székely), forthcoming in *foundations of physics*.*

40. "dialogue concerning the two chief views on spacetime rigidity." (with j. read), forthcoming in *philosophy of physics*.*

39. “determinism and asymmetry in general relativity.” (with t. barrett, h. halvorson, and j. weatherall), forthcoming in *the british journal for the philosophy of science*.*

38. “on privileged coordinates and kleinian methods.” (with t. barrett) forthcoming in *erkenntnis*.*

37. “what do privileged coordinates tell us about structure?” (with t. barrett) *philosophy of science*. 92 (2025): 528–547.*

36. “a hierarchy of spacetime symmetries: holes to heraclitus.” (with t. barrett) forthcoming in *the british journal for the philosophy of science*.*

35. “closing the hole argument.” (with h. halvorson) *the british journal for the philosophy of science*. 76 (2025): 295–318.*

34. “heraclitus–maximal worlds.” (with t. barrett) *journal of philosophical logic*. 56 (2024): 1519–1536.*

33. “on coordinates and spacetime structure.” (with t. barrett) *philosophy of physics*. 2 (2024): 11.*

32. “time machines.” (with j. earman, c. wüthrich) *stanford encyclopedia of philosophy* edited by e. zalta (2024).* [substantive revision]

31. “on automorphism criteria for comparing amounts of mathematical structure.” (with t. barrett and j. weatherall) *synthese*. 201 (2023): 191.*

30. “on the (in?)stability of spacetime inextendibility.” *philosophy of science*. 90 (2023): 1331–1341.*

29. “supertasks.” (with b. roberts) *stanford encyclopedia of philosophy* edited by e. zalta (2022).* [substantive revision]

28. “general relativity as a collection of collections of models.” *hajnal andréka and istván németi on unity of science* edited by j. madarász and g. székely (2021). cham: springer nature, 409–425.*

27. “on feyerabend, general relativity, and ‘unreasonable’ universes.” *interpreting feyerabend: critical essays* edited by k. bschir and j. shaw (2021). cambridge: cambridge university press, 157–171.*

26. “malament–hogarth machines.” *the british journal for the philosophy of science*. 71 (2020): 1143–1153.*

25. “a remark on ‘time machines’ in honor of howard stein.” *studies in history and philosophy of modern physics*. 67 (2019): 111–116.*

24. “why be regular?” (with b. feintzeig, s. rosenstock, j. weatherall) *studies in history and philosophy of modern physics*. 65 (2019): 122–132.*

23. "some 'no-hole' spacetime properties are unstable." *foundations of physics*, 48 (2018): 1539-1545.*

22. "space and time." *introduction to formal philosophy* edited by s. hansson and v. hendricks (2018). cham: springer nature, 487-496.*

21. "would two dimensions be world enough for spacetime?" (with s. fletcher, m. schneider, j. weatherall) *studies in history and philosophy of modern physics*. 63 (2018): 100-113.*

20. "(information) paradox regained? a brief comment on maudlin on black hole information loss." (with j. weatherall) *foundations of physics*. 48 (2018): 611-627.*

19. "on the inextendibility of spacetime." *philosophy of science*. 84 (2017): 1215-1225.*

18. "on gödel and the ideality of time." *philosophy of science*. 83 (2016): 1050-1058.*

17. "is the universe as large as it can be?" *erkenntnis*. 81 (2016): 1341-1344.*

16. "epistemic 'holes' in spacetime." *philosophy of science*. 83 (2016): 256-276.*

15. "time (hole?) machines." *studies in history and philosophy of modern physics*. 48 (2014): 124-127.*

14. "on spacetime singularities, holes, and extensions." *philosophy of science*. 81 (2014): 1066-1076.*

13. "the geometry of conventionality" (with j. weatherall). *philosophy of science*. 81 (2014): 233-247.*

12. "global spacetime structure." *the oxford handbook of philosophy of physics* edited by r. batterman (2013). oxford: oxford university press, 587-606.*

11. essay review of david malament, *topics in the foundations of general relativity and newtonian gravitation theory*. *philosophy of science*. 79 (2012): 575-583.*

10. "time travel: why it may not pay to work out all the kinks." *philosophy of science*. 78 (2011): 1037-1045.*

9. "what is a physically reasonable spacetime?" *philosophy of science*. 78 (2011): 410-420.*

8. "no no-go: a remark on time machines." *studies in history and philosophy of modern physics*. 42 (2011): 74-76.*

7. "on efficient 'time travel' in gödel spacetime." *general relativity and gravitation*. 43 (2011): 51-60.*

6. "on the possibility of supertasks in general relativity." *foundations of physics*. 40 (2010): 276-288.*

5. "on the existence of 'time machines' in general relativity." *philosophy of science*. 76 (2009): 1020-1026.*

4. “on force in cartesian physics.” *philosophy of science*. 76 (2009): 295–306.*

3. “is spacetime hole-free?” *general relativity and gravitation*. 41 (2009): 1639–1643.*

2. “can we know the global structure of spacetime?” *studies in history and philosophy of modern physics*. 40 (2009): 53–56.*

1. “is prediction possible in general relativity?” *foundations of physics*. 38 (2008): 317–321.*

public facing articles

2. “the universe is a puzzle that fits together only one way.” institute of arts and ideas (iai.tv), 2025.

1. “the universe is unknowable from within it.” institute of arts and ideas (iai.tv), 2025.

presentations (*=invited)

92. “modal symmetry and modal structure.” (presented by t. barrett). meeting of the philosophy of science association. san diego, november 2026.

91. “what is a local spacetime property?” meeting of the philosophy of science association. san diego, november 2026.

90. “howard stein on gödel spacetime.” conference on the work of howard stein, columbia university. october 2026.*

89. “on determinism in general relativity.” philosophy of science reading group, princeton university. october 2026.*

88. “heraclitus and buddha spacetimes.” history and philosophy of science reading group, university of tokyo. september 2026.*

87. “has the future already happened?” lps summer development program, uc irvine. august 2026.*

86. “quasi-local spacetime properties and observational indistinguishability.” (presented by j. doboszewski), logic, relativity, and beyond. hungarian academy of sciences, institute for mathematics, budapest. july 2026.

85. “an extendible spacetime without closed timelike curves whose every extension contains closed timelike curves.” (presented by g. székely), logic, relativity, and beyond. hungarian academy of sciences, institute for mathematics, budapest. july 2026.

84. “invariance and definability in general relativity.” logic, relativity, and beyond. hungarian academy of sciences, institute for mathematics, budapest. july 2026.

83. “invariance and definability in general relativity.” meeting on the foundations of physics, irvine. june 2026.

82. “determinism: physics and buddhism.” kuci radio, 88.9fm, irvine. june 2026.*

81. “invariance and definability in general relativity.” (presented by t. barrett). uc berkeley, colloquium for the group in logic and the methodology of science. april 2026.*

80. “invariance and definability in general relativity.” (presented by t. barrett). chapman university, history and philosophy of mathematics colloquium. march 2026.*

79. “invariance and definability in general relativity.” philosophy of physics conference, princeton university. january 2026.* [via zoom]

78. “spacetime asymmetry.” philosophy of physics seminar, university of oxford. june 2025.*

77. “spacetime asymmetry.” sigma club lecture in philosophy of physics, london school of economics. june 2025.*

76. “heraclitus spacetime.” meeting of the american philosophical association, pacific division. san francisco. april 2025.*

75. “time travel: physics and film” honors program fireside chat, uc irvine. february 2025.*

74. “what is a deterministic theory?” (presented by h. halvorson) radboud center for natural philosophy, university of nijmegen. january 2025.*

73. “heraclitus-maximal worlds.” philosophy of science seminar, university of washington. october 2024.*

72. “on coordinates and spacetime structure.” (presented by t. barrett). spacetime symmetries conference, uc irvine. november 2023.*

71. “a hierarchy of spacetime symmetries: holes to heraclitus.” spacetime symmetries conference, uc irvine. november 2023.*

70. “is there a physically reasonable malament-hogarth machine?” (presented by a. carter). uk and european meeting on the foundations of physics, bristol. july 2023.

69. “dispensing with the hole argument” (presented by h. halvorson). mathematics in physics, university of oslo. june 2023.*

68. “a hierarchy of spacetime symmetries: holes to heraclitus.” philosophy of science seminar, uc santa barbara. june 2023.*

67. “a hierarchy of spacetime symmetries: holes to heraclitus.” symmetry workshop, university of salzburg. june 2023.⋆ [via zoom]

66. “has the future already happened?” honors program fireside chat, uc irvine. may 2023.⋆

65. “on the automorphism criteria for comparing amounts of mathematical structure” (presented by t. barrett). meeting of the philosophy of science association. pittsburgh, november 2022.

64. “on the (in?)stability of spacetime inextendibility.” meeting of the philosophy of science association. pittsburgh, november 2022.

63. “a hierarchy of spacetime symmetries: holes to heraclitus.” tarskian algebraic logic, relativity theory and methodology of science: istván németi is 80, hungarian academy of sciences, institute for mathematics, budapest. september 2022.⋆

62. “is the universe as large as it can be?” lps summer diversity program, uc irvine. august 2022.⋆

61. “is the universe as large as it can be?” global structure and semi-classical gravity, ludwig maximilian university, munich center for mathematical philosophy. july, 2022.⋆

60. “spacetime rigidity: from heraclitus to the hole argument.” munich center for mathematical philosophy, ludwig maximilian university. july 2022.⋆

59. “is time travel possible?” osher lifelong learning institute, uc irvine continuing education. may 2022.⋆

58. “closing the hole argument” (with h. halvorson), cambridge philosophy of physics reading group. february 2022.⋆ [via zoom]

57. “on the (in?)stability of spacetime inextendibility.” warsaw university of technology, warsaw spacetime colloquium. may, 2021.⋆ [via zoom]

56. “on the (in?)stability of spacetime inextendibility.” harvard university, black hole initiative seminar. may, 2021.⋆ [via zoom]

55. “underdetermination.” uc irvine philosophy club. april 2021.⋆ [via zoom]

54. “underdetermination.” glasgow university, thoughts: philosophy untangled podcast. january, 2021.⋆ [via zoom]

53. “general relativity as a collection of collections of models.” university of bonn, workshop on the epistemology of relativity. june, 2020.⋆ [cancelled due to covid]

52. “general relativity as a collection of collections of models.” new directions in the foundations of physics, viterbo, italy. may, 2020.* [cancelled due to covid]

51. “general relativity as a collection of collections of models.” ludwig maximilian university, munich center for mathematical philosophy. may, 2020.* [cancelled due to covid]

50. “general relativity as a collection of collections of models.” university of salzburg, department of philosophy. may, 2020.* [cancelled due to covid]

49. “is the universe as large as it can be?” harvard university, black hole initiative colloquium, october 2019.*

48. “spacetime holes and anti-holes.” harvard university, black hole initiative seminar. september 2019.*

47. “so you want to be a zen master?” uc irvine, philosophy club. january 2019.*

46. “some ‘no-hole’ spacetime properties are unstable.” meeting of the philosophy of science association. seattle, november 2018.

45. “some ‘no-hole’ spacetime properties are unstable.” uk and european meeting on the foundations of physics, utrecht. july 2018.

44. “is the universe as large as it can be?” international colloquium on group theoretical methods in physics, prague. july 2018.

43. “time (hole?) machines.” philosophy of science seminar. princeton university. may 2018.*

42. “(information) paradox regained.” (presented by j. weatherall). metro-area philosophy of science group, new york university. september 2017.*

41. “(information) paradox regained.” black hole initiative reading group. ludwig maximilian university, munich center for mathematical philosophy. august 2017.*

40. “some no-hole spacetime properties are unstable.” logic, relativity, and beyond. hungarian academy of sciences, institute for mathematics, budapest. august 2017.*

39. “time (hole?) machines.” the philosophy of howard stein. university of chicago. june 2017.*

38. “on the inextendibility of spacetime.” meeting of the philosophy of science association. atlanta. november 2016.

37. “is the universe as large as it can be?” uk and european meeting on the foundations of physics, london. july 2016.

36. “is the universe as large as it can be?” international conference on the nature and ontology of spacetime. varna, bulgaria. june 2016.

35. “is the universe as large as it can be?” philosophy of science seminar. princeton university. march 2016.*

34. “is the universe as large as it can be?” conference in mathematical general relativity. tsinghua university, china. january 2016.

33. “epistemic ‘holes’ in spacetime.” southern california philosophy of physics group, irvine. november 2015.*

32. “epistemic ‘holes’ in spacetime.” logic, relativity, and beyond. hungarian academy of sciences, institute for mathematics, budapest. august 2015.

31. “on gödel and the ideality of time” (presented by t. barrett). meeting of the philosophy of science association. chicago. november 2014.

30. “time (hole?) machines.” uc irvine, department of logic and philosophy of science. april 2014.*

29. “the geometry of conventionality” (presented with j. weatherall). uk and european meeting on the foundations of physics. munich, july 2013.

28. “time machines: some recent work.” university of pittsburgh, philosophy of physics workshop. april 2013.*

27. “the geometry of conventionality” (presented by j. weatherall). university of pittsburgh, history and philosophy of science seminar. april 2013.*

26. “on gödel and the ideality of time.” meeting of the american philosophical association, pacific division. san francisco. march 2013.

25. “on spacetime singularities, holes, and extensions.” meeting of the philosophy of science association. san diego, november 2012.

24. “the geometry of conventionality.” hungarian academy of sciences, institute for philosophy. budapest. september 2012.*

23. “on spacetime singularities, holes, and extensions.” logic, relativity, and beyond. hungarian academy of sciences, institute for mathematics. budapest. september 2012.*

22. “on spacetime singularities, holes, and extensions.” university of western ontario, physics seminar. april 2012.*

21. “time machines: some recent work.” university of western ontario, philosophy department. april 2012.*

20. “time travel for children” paws-on science: husky weekend, pacific science center. seattle. march 2012.

19. “time machines: some recent work.” university of konstanz, germany, philosophy of science workshop. march 2012.*

18. “on spacetime singularities, holes, and extensions.” southern california philosophy of physics group, irvine. january 2012.*

17. “time machines: some recent work.” conference on physics and computation, university of turku, finland. june 2011.*

16. “time travel: why it may not pay to work out all the kinks.” meeting of the philosophy of science association. montreal. november 2010.

15. “what is a physically reasonable spacetime?” university of british columbia, philosophy of science workshop. april 2010.*

14. “what is a physically reasonable spacetime?” university of oxford, philosophy of physics seminar. february 2010.*

13. “what is a physically reasonable spacetime?” larsim laboratory, paris, french atomic energy commission. february 2010.*

12. “what is a physically reasonable spacetime?” university of pittsburgh, philosophy of science workshop. march 2009.*

11. “can we know the structure of our universe?” university of pittsburgh, philosophy department. january 2009.*

10. “can we know the structure of our universe?” carnegie mellon university, philosophy department. january 2009.*

9. “can we know the structure of our universe?” st. olaf college, philosophy department. january 2009.*

8. “can we know the structure of our universe?” university of washington, philosophy department. january 2009.*

7. “can we know the structure of our universe?” uc irvine, department of logic and philosophy of science. december 2008.*

6. “on the existence of time machines.” meeting of the philosophy of science association. pittsburgh. november 2008.

5. “on the possibility of supertasks in general relativity.” southern california philosophy of physics meeting, irvine. may 2008.*

4. “can we know the structure of our universe?” florence–irvine logic and philosophy of science conference, irvine. march 2007.*

3. “on efficient ‘time travel’ in gödel spacetime.” southern california philosophy of physics group. irvine. december 2006.*

2. "on force in cartesian physics." meeting of the philosophy of science association. vancouver. november 2006.

1. "observational indistinguishability and geodesic incompleteness." university of western ontario, lmp graduate conference. may 2006.

grants, fellowships, and awards

dean's award for outstanding undergraduate teaching (school-wide distinction), uc irvine, 2020

inclusive excellence certificate award, office of inclusive excellence, uc irvine, 2020.

visiting fellow, munich center for mathematical philosophy, ludwig maximilian university, summer 2017.

grant for "laws, methods, and minds in cosmology" ($206,352) with c. smeenk and j. weatherall, john templeton foundation, 2016.

distinguished teaching award (university-wide distinction), university of washington, 2013.

order of merit: outstanding scholarship award (school-wide distinction) uc irvine, 2009.

justine lambert prize (best graduate student paper in philosophy of science), uc irvine, 2009.

regents dissertation fellowship, uc irvine, 2008.

quantum foundations summer fellowship, perimeter institute, 2007.

robert clifton memorial prize (best graduate student paper in philosophy of physics), university of western ontario, 2006.

teaching experience

uc irvine: introduction to logic (2008), global spacetime structure (2015, 2019), scientific inquiry (2015, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024), what is space? (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023), so you want to be a zen master? (2015, 2017, 2022), geometry and spacetime (2016, 2019, 2021, 2023), existentialism (2016, 2018), science and religion (2017, 2019, 2020, 2021, 2022, 2023, 2024), probability and determinism (2017, 2022), spacetime singularities (2019), philosophy of science (2020),

university of washington: probability and induction (2012, 2013, 2014), decision theory (2011, 2011), philosophy of science (2010, 2010, 2012, 2013, 2014), introduction to logic (2010, 2010, 2011, 2013, 2013), philosophy of space and time (2009, 2011, 2013), set theory (2012),

puzzles and paradoxes (2013), introduction to zen (2014), existentialism (2014).

brigham young university: introduction to russian (2000, 2001, 2001, 2002)

professional service

director of graduate studies, university of washington (2013–2014); director of admissions, uc irvine (2015–); first generation faculty initiative committee member, uc irvine (2021–); lifted prison education program committee member, uc irvine (2021–); first generation faculty advisor (2026–)

referee/reviewer: american mathematical society, *analysis*, *analytic philosophy*, *british journal for the philosophy of science*, cambridge university press, *dialectica*, *erkenntnis*, *european journal for philosophy of science*, *foundations of science*, *general relativity and gravitation*, *gravitation and cosmology*, *international journal of theoretical physics*, *international studies in the philosophy of science*, *journal of optimization theory*, *journal for general philosophy of science*, *journal of philosophical research*, *metascientia: journal of the history and philosophy of science*, *mind*, national science foundation, *nous*, oxford university press, *philosophia mathematica*, *philosophical quarterly*, *philosophies*, *philosophy of science*, *philosophy of physics*, philosophy of science association, polish national science center, *res philosophica*, *review of symbolic logic*, *studies in history and philosophy of modern physics*, *symmetry*, *synthese*, *theoria*

program committee member: 23rd meeting of the philosophy of science association, san diego (2012), 17th uk and european meeting on the foundations of physics, munich (2013), 2nd meeting on logic, relativity, and beyond, budapest (2015), 18th uk and european meeting on the foundations of physics, london (2016), 3rd meeting on logic, relativity, and beyond, budapest (2017), 4th meeting on logic, relativity, and beyond, budapest (2020 [cancelled due to covid]), global structure and semi-classical gravity, munich (2022), 7th international conference on the nature and ontology of spacetime, varna, bulgaria (2024), meeting on the foundations of physics, irvine (2026), 5th meeting on logic, relativity, and beyond, budapest (2026), 8th international conference on the nature and ontology of spacetime, varna, bulgaria (2026).

community service: paws-on-science presentation, seattle science center (2012); science fair judge, irvine unified school district (2016); ask-a-scientist panel member, irvine unified school district (2017); faculty representative, uc irvine first generation welcome dinner (2018, 2019);

faculty panel member, uc irvine science fiction club (2018); guest lecturer, uc irvine philosophy club (2019, 2022); th!nk philosophy instructor, san joaquin elementary school (2019); faculty panel member, wonder philosophy workshop for first generation students, uc irvine (2019); speaker, lps summer diversity program (2020 [cancelled due to covid], 2022, 2025); career day presentation, irvine unified school district (2021); mentor, philosophy of science association's underrepresented scholar program (2020–); faculty representative, uc irvine boost transfer student welcome (2022); faculty representative, uc irvine first gen first quarter meeting (2022); instructor, lifted prison education program, donovan correctional facility (2023, 2024, 2025), charles lave scholarship committee (2026)