

Curriculum Vitae for Lionel Mason

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Oxford, OX1 3LB

Date of birth: 18 June, 1960

Nationality: British

Main appointments

2005—: Title of Professor of Mathematics, University of Oxford
2000–5: Title of Reader, University of Oxford
1994–: University Lecturer, University of Oxford, & Tutorial Fellowship, St Peter's College.
1989–94: S.E.R.C. Advanced Fellow, University of Oxford
1987–8: Andrew Mellon Postdoctoral Fellow, University of Pittsburgh & Syracuse University.
1985–9: Esmée Fairbairn Junior Research Fellow, New College Oxford.

Qualifications

1986: D.Phil.: Twistors in curved Space-time, University of Oxford.
1982: Certificate of Advanced Study, Distinction, University of Cambridge.
1981: BA Maths, 1st Class, University of Oxford

Visiting positions (1999 on)

2015: Professeur Invité Université Paris VII for month of September-October and member Centre Emile Borel, Institute Henri Poincaré (programme on mathematical relativity).
2013: August-December, Simons Center for Geometry and Physics, Stonybrook, joint organiser of programme 'The Mathematics and Physics of Scattering amplitudes'.
2009: January-May, IHES, Bures Sur Yvette, Paris.
2006: Newton Institute, Cambridge, September, "Painlevé equations and isomonodromy", joint programme organiser.
2005: University of Edinburgh May-July.
2003: December, Professeur Invité Université Paris VII for month of December, and member of Centre Emile Borel, Institute Henri Poincaré (invited lecture series, organised by Prof Gennadi Henkin).
2003: Isaac Newton Institute, July, Nonlinear waves.
2002: University of Edinburgh May-July.
2002: Professeur Invité, University Bordeaux 1, April..
2001: Member, Mathematical Sciences Research Institute, UC Berkeley, fall.
2001: Isaac Newton Institute, Integrable systems, August and December.
1999: Feza Gursey Institute, Istanbul (invited lecture series).
1999: The Erwin Schrödinger Institute, Vienna (programme co-organiser) and Collegium Budapest, Budapest (co-organiser).

Administrative positions

1998–2008: Senior Maths Tutor, St Peters College.
1998–2000: Examiner for MSc in GMPA.

2000-1 and 2002-5: Finals examiner, Chairman 2002-3.

2002-5: Lecture list secretary.

2010-11, 2013-4: Moderator (1st year examinations).

Research career to date

My research has mostly focussed on twistor theory both in its aspirations as a programme for basic physics and in its applications to nonlinear equations, geometry, mathematical physics and with a particular emphasis on integrable systems and general relativity. The recent developments in twistor-string theory have taken my recent research towards field theory and string theory and particularly scattering theory and amplitudes.

Graduate teaching

I currently have 4 D.Phil. students Grigalius Tsaujanskas, Hadleigh Frost, Andrea Ferrari, Stefan Nekovar. 12 have graduated under my supervision with the starred ones still in academia: Yvonne Geyer*, Tim Adamo*, Mat Bullimore*, Norman Metzner, Arman Taghavi Chabert*, Wen Jiang, Andy Dougan, Wing Chung Fong*, Mark Cundy, Steve Barge, Maciej Dunajski*, Woon Wong. Of these, four have permanent positions: Maciej Dunajski (Cambridge), Arman Taghavi-Chabert (American University of Beirut), Wing Chung Fong (Chinese University of Hong Kong), Mat Bullimore (Durham).

Postdocs:

I currently supervise Dr Eduardi Casali.

Former postdocs:

Dr Yvonne Geyer 2016, Dr Susama Agarwala 2013-15, Dr Ricardo Monteiro 2013-15, Dr Arthur Lipstein 2011-14, Dr Mat Bullimore, 2012-13, Dr Ron Reid-Edwards 2009-13, Dr David Skinner, 2008-9, Dr Vasilisa Schramchenko 2007-10, Dr Rutger Boels 2004-6. All remain in academia and all but two are now permanent.

Seminars

I have been running the relativity seminar in Oxford since 1998.

I regularly give seminars in maths and physics departments, meetings and international conferences, of the order of 10 per year.

Conference organisation and grants

The following are all joint efforts (except the LMS invited lecture series).

2017: New Horizons in Twistor Theory, Oxford, January 4-7.

2016: Isaac Newton Institute Cambridge, Gravity, amplitudes and twistors, 20 June-8 July.

2016: March 21-22: Oxford-Humboldt summit.

2015: Amplitudes ETH Zurich, 6-10 July.

2014: September 22-25. New geometric structures in Scattering amplitudes, supported by Epsrc and in collaboration with the Clay Mathematical Institute.

2014: March 27-28: Oxford-Berlin summit 2 day meeting to foster relations between mathematical physics groups in Humboldt and Oxford.

2013: The Physics and Mathematics of Scattering Amplitudes, The Simons Center for Geometry and Physics, August -December.

2013: The mathematics of CCC; Mathematical Physics with a positive Lambda: Clay Maths Institute Sept 11-13.

2012: Geometry of Scattering Amplitudes: Banff International Research Station, 26-31 August.

2011: Twistors Geometry and Physics, 21-22 July, <http://people.maths.ox.ac.uk/lmason/rp80.html>.

2008: Geometry, Integrability and Twistor theory, 24-27 June, CMS, Cambridge.
2007: Durham symposium on "Twistors, Strings and Scattering Amplitudes", one week August, funded by the EPSRC, £25k plus overheads.
2006: Painlevé equations and Isomonodromy, 4 week meeting in the Isaac Newton Institute, September 2006 with one week an instructional meeting, and another being a research meeting. (£30k from Newton Institute.)
2005: Twistor-String theory in Oxford, January, LMS £12,000.
2001: Geometry of integrable systems, Isaac Newton Institute, 3 days in November.
2000: Invited Lecture Series by Prof Dubrovin with supplementary lectures. LMS: £2k
1999: Twistor theory, Collegium Budapest, 4 days in July.
1997 & 1999: programme on CR structures and spaces of geodesics, Erwin Schrodinger Institute, Vienna, 600,000 Schillings.
1997: Integrability in Complex methods in differential geometry, ICMS, 1 week meeting.
1996: Geometric Issues in the Foundations of Science, LMS £2.5k, EPSRC; £16.5k.

Other grants and Fellowships

2015: EPSRC grant EP/M018911/1: Ambitwistor strings and the complex geometry of the S-matrix £374k.
Leverhulme Research Fellowship. 2011-13, £50k.
2012: EPSRC grant EP/J019518/1: "Holomorphic linking and the twistor geometry of the S-Matrix" for PDRA and meeting £285k.
2007: EPSRC grant EP/F016654/1: "The foundations of twistor-string theory", for postdoctoral research assistant (£284k).
2005: Leverhulme Senior Research Fellowship, £27k to pay for replacement teaching and administration for the academic year 2005-6 (one awarded in Mathematics that year).
2004: Node coordinator for Enigma Marie Curie research training network, 210k euros for one postdoc, two visiting students and two workshops and travel for members of the node over a four year period.
1995: Nato Collaborative Research Grant, £5 k.
1995: Nuffield foundation new lecturer startup grant, £2.5k.

Publications

D.Phil Thesis: (Oxford, 1986) Twistors in Curved Space-Time.

Books

Research Monograph:

Mason, L.J. and Woodhouse, N.M.J. (1996) Integrability, self-duality and twistor theory, O.U.P.

Edited works:

1. Further Advances in Twistor Theory, Vol. I, eds L.J. Mason and L.P. Hughston, Longman, 1990.
2. Further Advances in Twistor Theory, Vol. II, eds L.J. Mason, L.P. Hughston, and P.Z.Kobak, Longman, 1995.
3. The Geometric Universe, eds S.A.Huggett, L.J.Mason, K.P.Tod, Tsou.S.Tsheung, N.M.J.Woodhouse, (1998) OUP.

4. Further Advances in Twistor Theory, Vol. III, eds L.J. Mason, L.P. Hughston, P.Z.Kobak and K. Pulverer, Chapman & Hall/CRC research notes in maths 424, 2001.
5. Geometry and integrability. Edited by Mason, L.J. and Nutku, Y. London Mathematical Society Lecture Note Series, 295. Cambridge University Press, Cambridge, 2003.

Refereed research Articles:

1. Baston R.J. & Mason L.J. (1987) Conformal gravity, the Einstein equations and spaces of complex null geodesics, *Class. Quant. Grav.* 4 815-826.
2. Hughston, L.P. & Mason, L.J. (1987) A generalized Kerr-Robinson theorem, *Class. Quant. Grav.* 5, 275-285.
3. Woodhouse N.M.J. & Mason L.J. (1988) The Geroch group and non-Hausdorff twistor spaces, *Nonlinearity* 1 73-114.
4. Mason L.J, Chakravarty S. & Newman E.T. (1988a) Backlund transformations for the anti-self-dual Yang-Mills equations, *J. Math. Phys.* 29, 4, 1005-1013.
5. Mason L.J., Chakravarty S. & Newman E.T. (1988b) A simple solution generation method for anti-self-dual Yang-Mills equations, *Phys. Lett. A* 130, 2, 65-68.
6. Mason L.J. & Newman E.T. (1989) A connection between the Yang-Mills equations and Einstein's equations, *Comm. Math. Phys.*, 121, 659-668.*
7. Mason L.J. (1989) A Hamiltonian interpretation of Penrose's quasi-local mass construction, *Class. & Quant. Grav.* 6, L7-L13.
8. Mason L.J. & Sparling G.A.J. (1989) Non-linear Schrodinger and Korteweg-de Vries are reductions of self-dual Yang-Mills, *Phys. Lett. A*, 137, 1&2, 29-33.
9. Ivancovitch J., Mason, L.J. & Newman, E.T. (1990) On the density of the Ward ansatz, *Comm. Math. Phys.* 130, 139-155.
10. Mason L.J. & Frauendiener J. (1990) The Sparling 3-form, Ashtekar variables and quasi-local mass, in *Twistors in mathematics and physics*, eds R.Baston & T.Bailey, C.U.P, p.189-217.
11. Capovilla R. Dell J. Jacobson T. & Mason L.J. (1991) Self-dual 2-forms and gravity, *Class. & Quant. Grav.*, 8, 41-57.
12. Chakravarty S., Mason L.J. & Newman E.T. (1991) Canonical structures on anti-self-dual four-manifolds and the diffeomorphism group, *J. Math. Phys.*, 32 (6), 1458-1464.
13. Dougan A. & Mason L.J. (1991) Quasi-local mass constructions with positive energy, *Phys. Rev. Lett*, 67, #16, 2119-2122.
14. Graham C.R., Jenne R., Mason L.J. & Sparling G.A.J. (1992) Conformally invariant powers of the Laplacian, in *J. London Math. Soc.*, 46 (3), 557-565.
15. Mason L.J. & Sparling G.A.J. (1992) Twistor correspondences for the soliton hierarchies, *J. Geom. and Phys.*, 8, 243-271.
16. Kozameh C., Mason L.J. & Newman E.T., (1992) The parallel propagator as basic variable for Yang-Mills theory, *Comm. Math. Phys.*, 150, 537-544.
17. Mason L.J. & Woodhouse N.M.J. (1993) Self-duality and the Painlevé transcendents, *Nonlinearity* 6, no. 4, 569-81.
18. Carey A., Hannabus K., Mason L.J. & Singer M.A. (1993) The Landau-Lifschitz equation, elliptic curves and the Ward transform, *Comm. Math. Phys.* 154, 25-47.
19. Mason, L.J. & Singer, M.A., (1994) The twistor theory of equations of Korteweg de Vries type, I, *Comm. Math. Phys.*, 166, 191-218.
20. Maszcyk, R., Mason, L.J. and Woodhouse, N.M.J. (1994) The Painlevé equations as reductions of the conformal self-duality equations, *Class. & Quant. Grav.*, 11, 65-71.
21. Mason, L.J. (1995) Generalized twistor correspondences, d-bar problems and the KP equa-

tions, in 'Twistor theory', ed. S.Huggett, Lecture notes in Pure and applied maths vol 169, Marcel Dekker.

22. Mason, L.J. (1995) The vacuum and Bach equations for light cone cuts, *J. Math. Phys.*, **36** (7), 3704-3721.
23. Mason, L.J. (1998) The asymptotic structure of algebraically special space-times, *Class. & Quant. Grav.*, **15**, no. 4, 1019-30.
24. Dunajski, M., Mason, L.J. and Woodhouse, N.M.J. (1998) From 2d integrable systems to self-dual gravity, *J. Phys. A.*, **31**, no. 28, 6019-28.
25. Bailey, T.N., Eastwood, M.G., Gover, A.R. and Mason, L.J. (1999) The Funk transform as a Penrose transform, *Math. Proc. Cam. Phil. Soc.*, **125**, no. 1, .
26. Mason, L.J. & Nicholas, J.P., (1999) Global results for the Rarita Schwinger equations and the Einstein vacuum equations, *Proc. LMS* (3) **79**, and french summary: *C. R. Acad. Sci. Paris*, t. **327**, Serie I, p. 743-8.
27. Mason, L.J. & Singer, M.A., and Woodhouse, N.M.J., (2000) Tau functions and the twistor theory of integrable systems, *J Geom. Phys.*, **32**, no. 4, 397-430.
28. Frittelli, S., Mason, L.J. & Newman, E.T., (2000) A spinor reformulation of the null surface treatment of GR., *J. Math. Phys.*, **41**, no. 9, 6300-17 .
29. Dunajski, M. & Mason, L.J. (2000) Hyperkahler hierarchies and their twistor theory, *Comm. Math. Phys.*, **213**, no. 3, 641-672.
30. Mason, L.J., Dunajski, M. & Tod, K.P. (2001) Einstein-Weyl geometry, the dKP equation and twistor theory (*J. Geom. Phys.*), **37**.
31. Mason, L.J.; Singer, M.A.; Woodhouse, N.M.J.; Tau-functions, twistor theory, and quantum field theory. *Comm. Math. Phys.* 230 (2002), no. 3, 389–420.
32. Lebrun, C.; Mason, L.J.; Zoll manifolds and complex surfaces. *J. Differential Geom.* 61 (2002), no. 3, 453–535.
33. Dunajski, M.; Mason, L.J.; Twistor theory of hyper-Khler metrics with hidden symmetries. Integrability, topological solitons and beyond. *J. Math. Phys.* 44 (2003), no. 8, 3430–3454.
34. Mason, L.J.; Nicolas, J.-P.; Conformal scattering and the Goursat problem. *J. Hyperbolic Differ. Equ.* 1 (2004), no. 2, 197–233.
35. Dunajski, M.; Gindikin, S.; Mason, L.J.; Solitons and admissible families of rational curves in twistor space. *Nonlinearity*, **18**, No. 2, 543–557.
36. L. J. Mason, "Twistor actions for non-self-dual fields: A derivation of twistor-string theory," *JHEP* **0510**, 009 (2005) [arXiv:hep-th/0507269].
37. Mason, L. J. Global anti-self-dual Yang-Mills fields in split signature and their scattering. *J. Reine Angew. Math.* 597 (2006), 105–133. [arXiv:math-ph/0505039].
38. L. J. Mason and D. Skinner, "An ambitwistor Yang-Mills Lagrangian," *Phys. Lett. B* **636**, 60 (2006) [arXiv:hep-th/0510262].
39. LeBrun, Claude ; Mason, L. J. Nonlinear gravitons, null geodesics, and holomorphic disks. *Duke Math. J.* 136 (2007), no. 2, 205–273. arXiv:math/0504582.
40. R. Boels, L. Mason and D. Skinner, "Supersymmetric gauge theories in twistor space," *JHEP* **0702**, 014 (2007) [arXiv:hep-th/0604040].
41. R. Boels, L. Mason and D. Skinner, "From twistor actions to MHV diagrams," *Phys. Lett. B* **648**, 90 (2007) [arXiv:hep-th/0702035].
42. M. Abou-Zeid, C. M. Hull and L. J. Mason, "Einstein supergravity and new twistor string theories," *Commun. Math. Phys.* **282** (2008) 519 [arXiv:hep-th/0606272].
43. L. Mason and D. Skinner, "Heterotic twistor-string theory," *Nucl. Phys. B* **795** (2008) 105 [arXiv:0708.2276 [hep-th]].
44. L. J. Mason and M. Wolf, "A Twistor Action for N=8 Self-Dual Supergravity," *Commun.*

- Math. Phys. **288** (2009) 97 [arXiv:0706.1941 [hep-th]].
45. L. Mason and D. Skinner, "Gravity, Twistors and the MHV Formalism," Commun. Math. Phys. **294** (2010) 827 [arXiv:0808.3907 [hep-th]].
46. C. LeBrun and L. J. Mason, "The Einstein-Weyl Equations, Scattering Maps, and Holomorphic Disks," Math. Res. Lett. **16** (2009), no. 2, 291–301 [arXiv:0806.3761 [math.DG]].
47. L. Mason and D. Skinner, "Scattering Amplitudes and BCFW Recursion in Twistor Space," [arXiv:0903.2083 [hep-th]].
48. L. Mason and D. Skinner, "Dual Superconformal Invariance, Momentum Twistors and Grassmannians," JHEP **0911** (2009) 045 [arXiv:0909.0250 [hep-th]].
49. M. Bullimore, L. Mason and D. Skinner, "Twistor-Strings, Grassmannians and Leading Singularities," JHEP **1003** (2010) 070 [arXiv:0912.0539 [hep-th]].
50. L. Mason and A. Taghavi-Chabert, "Killing-Yano Tensors And Multi-Hermitian Structures," J. Geom. Phys. **60** (2010) 907.
51. Mason, Lionel; Skinner, David Amplitudes at weak coupling as polytopes in AdS₅. J. Phys. A **44** (2011), no. 13, 135401, 13 pp. [arXiv:1004.3498 [hep-th]].
52. Bullimore, Mathew; Mason, Lionel; Skinner, David MHV diagrams in momentum twistor space. J. High Energy Phys. **2010**, no. 12, 032, 33 pp.
53. L. Mason and D. Skinner, "The Complete Planar S-matrix of N=4 SYM as a Wilson Loop in Twistor Space," J. High Energy Phys. **2010**, no. 12, 018, 32 pp. [arXiv:1009.2225 [hep-th]].
54. LeBrun, Claude; Mason, L. J. Zoll metrics, branched covers, and holomorphic disks. Comm. Anal. Geom. **18** (2010), no. 3, 475502.
55. Adamo, Tim; Bullimore, Mathew; Mason, Lionel; Skinner, David Scattering amplitudes and Wilson loops in twistor space. J. Phys. A **44** (2011), no. 45, 454008,
56. Adamo, Tim; Bullimore, Mathew; Mason, Lionel; Skinner, David A proof of the correlation function/supersymmetric Wilson loop correspondence. J. High Energy Phys. **2011**, no. 8, 076, 18 pp.
57. Mason, Lionel J.; Nicolas, Jean-Philippe Peeling of Dirac and Maxwell fields on a Schwarzschild background. J. Geom. Phys. **62** (2012), no. 4, 867889.
58. Adamo, Tim; Mason, Lionel Einstein supergravity amplitudes from twistor-string theory. Classical Quantum Gravity **29** (2012), no. 14, 145010, 16 pp.
59. Mason, L. J.; Reid-Edwards, R. A.; Taghavi-Chabert, A. Conformal field theories in six-dimensional twistor space. J. Geom. Phys. **62** (2012), no. 12, 23532375.
60. Adamo, Tim; Mason, Lionel Twistor-strings and gravity tree amplitudes. Classical Quantum Gravity **30** (2013), no. 7, 075020, 27 pp. 83C30
61. Lipstein, Arthur E.; Mason, Lionel Amplitudes of 3d Yang Mills theory. J. High Energy Phys. **2013**, no. 1, 009.
62. Tod, Paul; Metzner, Norman; Mason, Lionel Twistor theory of higher dimensional black holes: II. Examples. Classical Quantum Gravity **30** (2013), no. 9, 095002, 28 pp. 83C57
63. F. Cachazo, L. Mason and D. Skinner, "Gravity in Twistor Space and its Grassmannian Formulation," SIGMA **10** (2014) 051 [arXiv:1207.4712 [hep-th]].
64. L. J. Mason and R. A. Reid-Edwards, "The supersymmetric Penrose transform in six dimensions," arXiv:1212.6173 [hep-th].
65. A. E. Lipstein and L. Mason, "From the holomorphic Wilson loop to 'd log' loop-integrands for super-Yang-Mills amplitudes," JHEP **1305** (2013) 106 [arXiv:1212.6228 [hep-th]].
66. A. E. Lipstein and L. Mason, "From d logs to dilogs the super Yang-Mills MHV amplitude revisited," JHEP **1401** (2014) 169 [arXiv:1307.1443 [hep-th]].
67. T. Adamo and L. Mason, "Conformal and Einstein gravity from twistor actions," Class. Quant. Grav. **31** (2014) 045014 [arXiv:1307.5043 [hep-th]].

68. L. Mason and D. Skinner, "Ambitwistor strings and the scattering equations," *JHEP* **1407** (2014) 048 [arXiv:1311.2564 [hep-th]].
69. Y. Geyer, A. E. Lipstein and L. J. Mason, "Ambitwistor strings in 4-dimensions," *Phys. Rev. Lett.* **113** (2014) 081602 [arXiv:1404.6219 [hep-th]].
70. Y. Geyer, A. E. Lipstein and L. Mason, "Ambitwistor strings at null infinity and (subleading) soft limits," *Class. Quant. Grav.* **32** (2015) no.5, 055003 doi:10.1088/0264-9381/32/5/055003 [arXiv:1406.1462 [hep-th]].
71. D. Chicherin, R. Doobary, B. Eden, P. Heslop, G. P. Korchemsky, L. Mason and E. Sokatchev, "Correlation functions of the chiral stress-tensor multiplet in $\mathcal{N} = 4$ SYM," *JHEP* **1506** (2015) 198 doi:10.1007/JHEP06(2015)198 [arXiv:1412.8718 [hep-th]].
72. E. Casali, Y. Geyer, L. Mason, R. Monteiro and K. A. Roehrig, "New Ambitwistor String Theories," *JHEP* **1511** (2015) 038 doi:10.1007/JHEP11(2015)038 [arXiv:1506.08771 [hep-th]].
73. Y. Geyer, L. Mason, R. Monteiro and P. Tourkine, "Loop Integrands for Scattering Amplitudes from the Riemann Sphere," *Phys. Rev. Lett.* **115** (2015) no.12, 121603 doi:10.1103/PhysRevLett.115.121603 [arXiv:1507.00321 [hep-th]].
74. Y. Geyer, L. Mason, R. Monteiro and P. Tourkine, "One-loop amplitudes on the Riemann sphere," *JHEP* **1603** (2016) 114 doi:10.1007/JHEP03(2016)114 [arXiv:1511.06315 [hep-th]].
75. Y. Geyer, L. Mason, R. Monteiro and P. Tourkine, "Two-Loop Scattering Amplitudes from the Riemann Sphere," *Phys. Rev. D* **94** (2016) no.12, 125029 doi:10.1103/PhysRevD.94.125029 [arXiv:1607.08887 [hep-th]].
76. B. Eden, P. Heslop and L. Mason, "The Correlahedron," arXiv:1701.00453 [hep-th].
77. M. Atiyah, M. Dunajski and L. Mason, "Twistor theory at fifty: from contour integrals to twistor strings," arXiv:1704.07464 [hep-th].

Conference proceedings and other articles

1. Mason L.J. (1991) Insights from twistor theory, in *Conceptual problems of quantum gravity*, eds. A.Ashtekar and J.Stachel, Birkhauser, 499-511.
2. Dougan A. & Mason L.J. (1992) New quasi-local mass constructions with positive mass, in 'Proc. 6th Marcel Grossman meeting on general relativity' eds. H.Sato and T.Nakamura, World Scientific.
3. Mason, L.J. (1993) Twistor theory, self-duality and integrability, in 'Applications of analytic and geometric methods to nonlinear differential equations, (Exeter, 1992)', ed. P.A.Clarkson, Nato ASI series Math. Phys. 413, Kluwer Dordrecht.
4. Mason L.J. & Woodhouse N.M.J. (1993) Twistor theory and the Schlesinger equations, in 'Applicationsof analytic and geometric methods to nonlinear differential equations, (Exeter, 1992)',ed. P.A.Clarkson, Nato ASI series Math. Phys. 413, Kluwer Dordrecht.
5. Mason, L.J. (1996) Twistor theory, self-duality and integrability, *Rendiconti del Circolo Matematico di Palermo, Serie II, Suppl.* 43, 77-84.
6. Mason, L.J., (1997) Complex methods and new variables, *Proceedings of the 14th International Conference on General Relativity and Gravitation (Florence 1995)*, 429-433, World Sci. Publishing, River Edge NJ.
7. Mason, L.J.; *The anti-self-dual Yang-Mills equations and their reductions. Geometry and integrability*, 60–88, London Math. Soc. Lecture Note Ser., 295, Cambridge Univ. Press, Cambridge, 2003.
8. Bailey, T.N.; Eastwood, M.G.; Gover, A.R.; Mason, L.J.; *Complex analysis and the Funk transform. Sixth International Conference on Several Complex Variables (Gyeongju, 2002)*. *J. Korean Math. Soc.* 40 (2003), no. 4, 577–593.
9. Mason, L.J. (2005) Twistor theory and nonlinear equations, *Encyclopaedia of nonlinear*

systems.

10. Mason, L.J. (2006) Twistor theory and its applications, Encyclopaedia of Mathematical Physics, Elsevier.
11. Mason, L.J. (2006) Twistor theory and gravity, article for Japanese undergraduate magazine.
12. Mason, L.J., (2007) Complex methods and new variables, Proceedings of the 18th International Conference on General Relativity and Gravitation (Sydney 2007).

Publications in Twistor Newsletter

The articles marked with * have appeared in Further Advances in Twistor Theory Vol. 1, those with ** appeared in Further Advances in Twistor Theory Vol. 2 and the rest appear in Vol. 3.]

1. A note on the Sparling three-form or the Hamiltonian of G.R., TN 17, 1984.**
2. A new viewpoint on the angular momentum twistor in G.R., TN 18, 1984.**
3. Deforming ambitwistor space, TN 19, 1985.
4. The structure and evolution of hypersurface twistor space, TN 20, 1985.
5. Deformations of ambitwistor space and vanishing Bach tensors, with R.Baston, TN 20, 1985.
6. The Chern-Moser connection for hypersurface twistor C.R. manifolds, TN 21, 1986.
7. A characterization of twistor C.R. manifolds, TN 21, 1986.
8. The constraint and evolution equations for hypersurface twistor C.R. manifolds, TN 21, 1986.
9. Formal neighbourhoods for curved ambitwistor spaces, (with R.J.Baston) TN 21, 1986.
10. The Kahler structure of asymptotic twistor space, TN 22, 1986.
11. The conformal Einstein equations, (with R.J.Baston), TN 22, 1986.**
12. The relationship between spin-2 fields, linearized gravity and linearized conformal gravity, TN 23, 1987.
13. Local twistors and the Penrose transform for homogeneous bundles, TN 23, 1987.
14. Twistor CR manifolds associated to algebraically special space-times, TN 25, 1987.
15. Hypersurface twistors, TN 28, 1989.
16. On Ward's integral formula for the wave equation in plane wave space-times, TN 28, 1989.
17. A twistorial approach to the full vacuum equations (with R.Penrose), TN 29, 1989.
18. A quasi-local mass definition with positive mass (with A.Dougan) TN 30, 1990.**
19. H-space: a universal integrable system? TN 30, 1990.**
20. A new programme for light cone cuts and Yang-Mills holonomies, TN 31, 1991.
21. Twistor theory and integrability, TN 32, 1991.**
22. On the symmetries of the reduced self-dual Yang-Mills equations, TN 35 1992.**
23. Global twistor correspondences in split signature, TN 36, 1993.**
24. On the X-ray, Radon and Penrose transforms, TN 37, 1994.
25. Spin 3/2 fields and local twistors, TN 37, 1994.
26. Heavenly hierarchies and curved twistor spaces, with M.Dunajski, TN 41, 1996.
27. Integrable flows on moduli of rational curves . with M. Dunajski, 1997.
28. A recursion operator for ASD vacuum and ZRM fields on ASD backgrounds, with M.Dunajski, TN43, 1997.
29. Frittelli, S., Hadrovic, F., Mason, L.J. & Newman, E.T., Twistors and Legendre transformations, TN 45, 2000.

Book reviews

Space-time and singularities, by R. Naber, for Observatory.

General relativity and gravitation, GRG12 conference proceeding, for Observatory.

Spinors and Calibrations, by Reese Harvey, for the Bulletin of the London Math. Soc.

Beyond the hype, biography of Stephen Hawking for Nature Physics, 2012.