

DEREK BRUCE LEINWEBER  
Publications

## Publications Overview

- Editor of 4 refereed international conference proceedings.
- Published 4 refereed book chapters.
- Published 106 articles in refereed journals.
- Published 103 articles as refereed conference proceedings.
- Published 10 articles as conference proceedings.
- Published 16 newspaper articles
- Articles have 4118 citations in the SPIRES HEP Database.
- 18 articles are classified as *well-known* with 50–99 citations.
- 6 articles are *very well-known* with more than 100 citations.
- Published articles average 29 citations per paper in the SPIRES HEP Database.
- Hirsch’s h-index is 37.

## Publications Summary: 2002 to present

Publication Type	Number	Journal/Publisher	Impact Factor
<b>Refereed Book Chapters</b>	4	Lect. Notes Phys.	N/A
<b>Editorial Works</b>	3	Nucl. Phys. B (Proc. Supp.)	N/A
	1	Lect. Notes Phys.	N/A
<b>Refereed Journal Articles</b> (Total: 67)	3	Phys. Rev. Lett.	7.072
	41	Phys. Rev. D	4.896
	1	J. High Energy Phys. (JHEP)	5.393
	1	Nucl. Phys. B	5.199
	5	Phys. Lett. B	5.043
	4	Phys. Rev. C	3.327
	2	Annals Phys.	3.019
	10	Other	
<b>Refereed Conference Proceedings</b> (Total: 79)	46	Nucl. Phys. B (Proc. Supp.)*	0.875
	5	Nucl. Phys. A*	2.155
	28	Other	
<b>Unrefereed Conference Proceedings</b>	4	World Scientific / Other	
<b>Newspaper Articles</b>	16	The Advertiser	
<b>6-Year Total</b>	174	<b>6-Year Total Refereed</b>	150
<b>Career Total</b>	239	<b>Career Total Refereed</b>	213

\*Refereed conference proceedings in Nuclear Physics are required to contain new previously unpublished material.

## Very Well Known Refereed Publications (100+ Citations)

6. **“Infinite volume and continuum limits of the Landau-gauge gluon propagator”**  
F. D. R. Bonnet, P. O. Bowman, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
Phys. Rev. D **64**, 034501 (2001) 10 pp. [arXiv:hep-lat/0101013]
5. **“Baryon Masses from Lattice QCD: Beyond the Perturbative Chiral Regime”**  
D.B. Leinweber, A.W. Thomas, K. Tsushima and S.V. Wright.  
Phys. Rev. **D61**, 074502 (2000) 10 pp. [arXiv:hep-lat/9906027]
4. **“Asymptotic scaling and infrared behavior of the gluon propagator”**  
D. B. Leinweber, J. I. Skullerud, A. G. Williams and C. Parrinello [UKQCD Collaboration]  
Phys. Rev. D **60**, 094507 (1999) 17 pp. [arXiv:hep-lat/9811027]
3. **“Gluon propagator in the infrared region”**  
D. B. Leinweber, J. I. Skullerud, A. G. Williams and C. Parrinello [UKQCD collaboration]  
Phys. Rev. D **58**, 031501 (1998) 5 pp. [arXiv:hep-lat/9803015]
2. **“Decuplet baryon structure from lattice QCD”**  
D. B. Leinweber, T. Draper and R. M. Woloshyn  
Phys. Rev. D **46**, 3067 (1992) 19 pp. [arXiv:hep-lat/9208025]
1. **“Electromagnetic structure of octet baryons”**  
D. B. Leinweber, R. M. Woloshyn and T. Draper  
Phys. Rev. D **43**, 1659 (1991) 20 pp.

## Publications – Submitted to Refereed Journals

5. **“Stout-link smearing in lattice fermion actions”**  
J. B. Zhang, P. J. Moran, P. O. Bowman, D. B. Leinweber and A. G. Williams  
arXiv:0908.3726 [hep-lat]  
ADP-09-001-T679(2009)
4. **“Precision electromagnetic structure of decuplet baryons in the chiral regime”**  
S. Boinepalli, D. B. Leinweber, P. J. Moran, A. G. Williams, J. M. Zanotti and J. B. Zhang  
arXiv:0902.4046 [hep-lat]  
ADP-08-09-T669(2009)
3. **“Chiral extrapolation of octet-baryon charge radii”**  
P. Wang, D. B. Leinweber, A. W. Thomas and R. D. Young  
arXiv:0810.1021 [hep-ph]  
JLAB-THY-08-886(2008)
2. **“An analysis of the nucleon spectrum from lattice partially-quenched QCD”**  
W. Armour, C. R. Allton, D. B. Leinweber, A. W. Thomas and R. D. Young  
arXiv:0810.3432 [hep-lat]
1. **“Preconditioning Maximal Center Gauge with Stout Link Smearing in SU(3)”**  
A. O’Cais, W. Kamleh, K. Langfeld, B. Lasscock, D. B. Leinweber, P. J. Moran, A. Stern-  
beck, L. von Smekal  
arXiv:0807.0264 [hep-lat] 9 pp.

## Publications – Books

4. **“LC 2005, Proceedings of the Cairns Topical Workshop on Light-Cone QCD and Non-perturbative Hadron Physics”**  
D. B. Leinweber, L. von Smekal and A. G. Williams  
Nucl. Phys. B (Proc. Supp.) **161** (2006) 258 pp.
3. **“Lattice Hadron Physics”**  
A. C. Kalloniatis, D. B. Leinweber and A. G. Williams  
Lect. Notes Phys. **663**, 1 (2004) 230 pp.
2. **“Lattice hadron physics. Proceedings, 2nd Topical Workshop, LHP 2003, Cairns, Australia, July 22-30, 2003”**  
A. C. . Kalloniatis, D. B. . Leinweber and A. G. . Williams  
Nucl. Phys. Proc. Suppl. **128** (2004) 252 pp.
1. **“Lattice Hadron Physics. Proceedings, Workshop, LHP 2001, Cairns, Australia, July 9-18, 2001”**  
A. C. Kalloniatis, D. B. Leinweber, W. Melnitchouk and A. G. Williams  
Nucl. Phys. Proc. Suppl. **109A** (2002) 230 pp.

## Publications – Refereed Book Chapters

4. **“Quark Propagator from LQCD and its Physical Implications”**  
P. O. Bowman, U. M. Heller, D. B. Leinweber, A. G. Williams and J. B. Zhang  
Lect. Notes Phys. **663**, 17 (2005) 47 pp.
3. **“Baryon spectroscopy in lattice QCD”**  
D. B. Leinweber, W. Melnitchouk, D. G. Richards, A. G. Williams and J. M. Zanotti  
Lect. Notes Phys. **663**, 71 (2005) 42 pp. [arXiv:nucl-th/0406032].
2. **“Hadron Structure and QCD: Effective Field Theory for Lattice Simulations”**  
D. B. Leinweber, A. W. Thomas and R. D. Young  
Lect. Notes Phys. **663**, 113 (2005) 17 pp.
1. **“Hadron properties with FLIC fermions”**  
J. M. Zanotti, D. B. Leinweber, W. Melnitchouk, A. G. Williams and J. B. Zhang  
Lect. Notes Phys. **663**, 199 (2005) 27 pp. [arXiv:hep-lat/0407039].

## Publications – Refereed Journals

106. **“Isolating the Roper Resonance in Lattice QCD”**  
M. S. Mahbub, A. O. Cais, W. Kamleh, B. G. Lasscock, D. B. Leinweber and A. G. Williams  
Phys. Lett. B **679**, 418 (2009) [arXiv:0906.5433 [hep-lat]] 5 pp.
105. **“Isolating Excited States of the Nucleon in Lattice QCD”**  
M. S. Mahbub, A. O. Cais, W. Kamleh, B. G. Lasscock, D. B. Leinweber and A. G. Williams  
Accepted 26 Aug 2009 for publication in Phys. Rev. D  
arXiv:0905.3616 [hep-lat]  
ADP-09-09-T687(2009)

104. **“Phase Transition from QMC Hyperonic Matter to Deconfined Quark Matter”**  
 J. D. Carroll, D. B. Leinweber, A. G. Williams and A. W. Thomas  
 Phys. Rev. C **79**, 045810 (2009) [arXiv:0809.0168 [nucl-th]]
103. **“Strange magnetic form factor of the proton at  $Q^2 = 0.23 \text{ GeV}^2$ ”**  
 P. Wang, D. B. Leinweber, A. W. Thomas and R. D. Young  
 Phys. Rev. C **79**, 065202 (2009) [arXiv:0807.0944 [hep-ph]] 11 pp.
102. **“Realistic Lattice Determination of  $\alpha_s(M_Z)$  Revisited”**  
 K. Maltman, D. Leinweber, P. Moran and A. Sternbeck  
 Phys. Rev. D **78**, 114504 (2008) [arXiv:0807.2020 [hep-lat]] 14 pp.
101. **“Center vortices and the quark propagator in SU(2) gauge theory”**  
 P. O. Bowman, K. Langfeld, D. B. Leinweber, A. O’ Cais, A. Sternbeck, L. von Smekal and  
 A. G. Williams  
 Phys. Rev. D **78**, 054509 (2008) [arXiv:0806.4219 [hep-lat]]
100. **“Impact of Dynamical Fermions on QCD Vacuum Structure”**  
 P. J. Moran and D. B. Leinweber  
 Phys. Rev. D **78**, 054506 (2008) 9 pp. [arXiv:0801.2016 [hep-lat]]
99. **“Over-Improved Stout-Link Smearing”**  
 P. J. Moran and D. B. Leinweber  
 Phys. Rev. D **77**, 094501 (2008) 9 pp. [arXiv:0801.1165 [hep-lat]]
98. **“Vacuum structure revealed by over-improved stout-link smearing compared with the  
 overlap analysis for quenched QCD”**  
 E. M. Ilgenfritz, D. Leinweber, P. Moran, K. Koller, G. Schierholz and V. Weinberg  
 Phys. Rev. D **77**, 074502 (2008) 12 pp. [arXiv:0801.1725 [hep-lat]]
97. **“Scaling analysis of FLIC fermion actions”**  
 W. Kamleh, B. Lasscock, D. B. Leinweber and A. G. Williams  
 Phys. Rev. D **77**, 014507 (2008) 6 pp. [arXiv:0709.1531 [hep-lat]]
96. **“Scaling behavior and positivity violation of the gluon propagator in full QCD”**  
 P. O. Bowman *et al.*  
 Phys. Rev. D **76**, 094505 (2007) 7 pp. [arXiv:hep-lat/0703022]
95. **“Unquenching effects in the quark and gluon propagator”**  
 W. Kamleh, P. O. Bowman, D. B. Leinweber, A. G. Williams and J. Zhang  
 Phys. Rev. D **76**, 094501 (2007) 9 pp. [arXiv:0705.4129 [hep-lat]]
94. **“Even parity excitations of the nucleon in lattice QCD”**  
 B. G. Lasscock, J. N. Hedditch, W. Kamleh, D. B. Leinweber, W. Melnitchouk, A. G. Williams  
 and J. M. Zanotti  
 Phys. Rev. D **76**, 054510 (2007) 8 pp. [arXiv:0705.0861 [hep-lat]]
93. **“Pseudoscalar and vector meson form factors from lattice QCD”**  
 J. N. Hedditch, W. Kamleh, B. G. Lasscock, D. B. Leinweber, A. G. Williams and J. M. Zan-  
 otti  
 Phys. Rev. D **75**, 094504 (2007) 11 pp. [arXiv:hep-lat/0703014]
92. **“Chiral extrapolation of nucleon magnetic form factors”**  
 P. Wang, D. B. Leinweber, A. W. Thomas and R. D. Young  
 Phys. Rev. D **75**, 073012 (2007) 10 pp. [arXiv:hep-ph/0701082]

91. **“Quark-gluon vertex in general kinematics”**  
A. Kizilersu, D. B. Leinweber, J. I. Skullerud and A. G. Williams  
Eur. Phys. J. **C50**, 871 (2007) 5 pp. [arXiv:hep-lat/0610078]
90. **“Gluon flux-tube distribution and linear confinement in baryons”**  
F. Bissey, F. G. Cao, A. R. Kitson, A. I. Signal, D. B. Leinweber, B. G. Lasscock and A. G. Williams  
Phys. Rev. D **76**, 114512 (2007) 16 pp. [arXiv:hep-lat/0606016]
89. **“Precision electromagnetic structure of octet baryons in the chiral regime”**  
S. Boinepalli, D. B. Leinweber, A. G. Williams, J. M. Zanotti and J. B. Zhang  
Phys. Rev. **D74**, 093005 (2006) 29 pp. [arXiv:hep-lat/0604022]
88. **“Strange electric form factor of the proton”**  
D. B. Leinweber *et al.*  
Phys. Rev. Lett. **97**, 022001 (2006) 4 pp. [arXiv:hep-lat/0601025]
87. **“Spin glass behavior of the antiferromagnetic Ising model on a scale-free network”**  
M. Bartolozzi, T. Surungan, D. B. Leinweber and A. G. Williams  
Phys. Rev. B **73**, 224419 (2006) 8 pp. [arXiv:cond-mat/0512488]
86. **“Unified chiral analysis of the vector meson spectrum from lattice QCD”**  
W. Armour, C. R. Allton, D. B. Leinweber, A. W. Thomas and R. D. Young  
J. Phys. G: Nucl. Part. Phys. **32**, 971-991 (2006) 21 pp. [arXiv:hep-lat/0510078]
85. **“Scaling behavior of quark propagator in full QCD”**  
M. B. Parappilly, P. O. Bowman, U. M. Heller, D. B. Leinweber, A. G. Williams and J. B. Zhang  
Phys. Rev. D **73**, 054504 (2006) 5 pp. [arXiv:hep-lat/0511007]
84. **“Symbiosis in the Bak-Sneppen Model for biological evolution with Economic Applications”**  
M. Bartolozzi, D. B. Leinweber and A. W. Thomas  
Physica A **365**, 499 (2006) 10 pp. [arXiv:cond-mat/0503421]
83. **“Nonperturbative renormalization of composite operators with overlap fermions”**  
J. B. Zhang *et al.*  
Phys. Rev. D **72**, 114509 (2005) 18 pp. [arXiv:hep-lat/0507022]
82. **“ $1^{-+}$  exotic meson at light quark masses”**  
J. N. Hedditch, W. Kamleh, B. G. Lasscock, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
Phys. Rev. D **72**, 114507 (2005) 8 pp. [arXiv:hep-lat/0509106]
81. **“Spin 3/2 pentaquark resonance signature in lattice QCD”**  
B. G. Lasscock, D. B. Leinweber, W. Melnitchouk, A. W. Thomas, A. G. Williams, R. D. Young and J. M. Zanotti  
Phys. Rev. D **72**, 074507 (2005) 10 pp. [arXiv:hep-lat/0504015]
80. **“Neutron stars and strange stars in the chiral SU(3) quark mean field model”**  
P. Wang, S. Lawley, D. B. Leinweber, A. W. Thomas and A. G. Williams  
Phys. Rev. C **72**, 045801 (2005) 8 pp. [arXiv:nucl-th/0506014]
79. **“Chiral and continuum extrapolation of partially-quenched lattice results”**  
C. R. Allton, W. Armour, D. B. Leinweber, A. W. Thomas and R. D. Young  
Phys. Lett. B **628**, 125 (2005) 6 pp. [arXiv:hep-lat/0504022]

78. **“Stochastic Opinion Formation in Scale-Free Networks”**  
M. Bartolozzi, D. B. Leinweber and A. W. Thomas  
Phys. Rev. E **72**, 046113 (2005) 10 pp. [arXiv:physics/0504168]
77. **“Search for the pentaquark resonance signature in lattice QCD”**  
B. G. Lasscock, D. B. Leinweber, W. Melnitchouk, A. W. Thomas, A. G. Williams, R. D. Young  
and J. M. Zanotti  
Phys. Rev. D **72**, 014502 (2005) 22 pp. [arXiv:hep-lat/0503008]
76. **“Self-Similar Log-Periodic Structures in Western Stock Markets from 2000”**  
M. Bartolozzi, S. Drozd, D. B. Leinweber, J. Speth and A. W. Thomas  
Int. J. of Mod. Phys. C **16**, 1347 (2005) 15 pp. [arXiv:cond-mat/0501513]
75. **“Fat link irrelevant clover overlap quark propagator”**  
W. Kamleh, P. O. Bowman, D. B. Leinweber, A. G. Williams and J. Zhang  
Phys. Rev. D **71**, 094507 (2005) 11 pp. [arXiv:hep-lat/0412022]
74. **“Precise determination of the strangeness magnetic moment of the nucleon”**  
D. B. Leinweber *et al.*  
Phys. Rev. Lett. **94**, 212001 (2005) 4 pp. [arXiv:hep-lat/0406002]
73. **“Improved chiral properties of FLIC fermions”**  
S. Boinepalli, W. Kamleh, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
Phys. Lett. B **616**, 196 (2005) 8 pp. [arXiv:hep-lat/0405026]
72. **“Unquenched quark propagator in Landau gauge”**  
P. O. Bowman, U. M. Heller, D. B. Leinweber, M. B. Parappilly, A. G. Williams and J. Zhang  
Phys. Rev. D **71**, 054507 (2005) 7 pp. [arXiv:hep-lat/0501019]
71. **“Scaling of FLIC fermions”**  
J. M. Zanotti, B. Lasscock, D. B. Leinweber and A. G. Williams  
Phys. Rev. D **71**, 034510 (2005) 5 pp. [arXiv:hep-lat/0405015]
70. **“Quark propagator in Landau and Laplacian gauges with overlap fermions”**  
J. B. Zhang, P. O. Bowman, R. J. Coad, U. M. Heller, D. B. Leinweber and A. G. Williams  
Phys. Rev. D **71**, 014501 (2005) 8 pp. [arXiv:hep-lat/0410045]
69. **“Leading quenching effects in the proton magnetic moment”**  
R. D. Young, D. B. Leinweber and A. W. Thomas  
Phys. Rev. D **71**, 014001 (2005) 9 pp. [arXiv:hep-lat/0406001]
68. **“Self-Organized Criticality and Stock Market Dynamics: an Empirical Study”**  
M. Bartolozzi, D. B. Leinweber and A. W. Thomas  
Physica A **350**, 451 (2005) 15 pp. [arXiv:cond-mat/0405257]
67. **“Liquid-gas phase transition in nuclear matter including strangeness”**  
P. Wang, D. B. Leinweber, A. W. Thomas and A. G. Williams  
Phys. Rev. C **70**, 055204 (2004) 8 pp. [arXiv:nucl-th/0407056]
66. **“Liquid-gas phase transition and Coulomb instability of asymmetric nuclear systems”**  
P. Wang, D. B. Leinweber, A. W. Thomas and A. G. Williams  
Nucl. Phys. A **748**, 226 (2005) 15 pp. [arXiv:nucl-th/0407057]
65. **“New treatment of the chiral SU(3) quark mean field model”**  
P. Wang, D. B. Leinweber, A. W. Thomas and A. G. Williams  
Nucl. Phys. A **744**, 273 (2004) 20 pp. [arXiv:nucl-th/0404079]

64. **“Hybrid Monte Carlo with fat link fermion actions”**  
W. Kamleh, D. B. Leinweber and A. G. Williams  
Phys. Rev. D **70**, 014502 (2004) 9 pp. [arXiv:hep-lat/0403019]
63. **“Limits on variations of the quark masses, QCD scale, and fine structure constant”**  
V. V. Flambaum, D. B. Leinweber, A. W. Thomas and R. D. Young  
Phys. Rev. D **69**, 115006 (2004) 8 pp. [arXiv:hep-ph/0402098]
62. **“Unquenched gluon propagator in Landau gauge”**  
P. O. Bowman, U. M. Heller, D. B. Leinweber, M. B. Parappilly and A. G. Williams  
Phys. Rev. D **70**, 034509 (2004) 4 pp. [arXiv:hep-lat/0402032]
61. **“Topological charge evolution in the Markov-chain of QCD”**  
D. B. Leinweber, A. G. Williams, J. b. Zhang and F. X. Lee  
Phys. Lett. B **585**, 187 (2004) 5 pp. [arXiv:hep-lat/0312035]
60. **“The Hamiltonian limit of (3+1)D SU(3) lattice gauge theory on anisotropic lattices”**  
T. M. R. Byrnes, M. Loan, C. J. Hamer, F. D. R. Bonnet, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
Phys. Rev. D **69**, 074509 (2004) 10 pp. [arXiv:hep-lat/0311014]
59. **“Comparison of  $|\mathbf{Q}| = 1$  and  $|\mathbf{Q}| = 2$  gauge-field configurations on the lattice four-torus”**  
S. O. Bilson-Thompson, D. B. Leinweber, A. G. Williams and G. V. Dunne  
Annals Phys. **311**, 267 (2004) 21 pp. [arXiv:hep-lat/0306010]
58. **“Physical nucleon properties from lattice QCD”**  
D. B. Leinweber, A. W. Thomas and R. D. Young  
Phys. Rev. Lett. **92**, 242002 (2004) 4 pp. [arXiv:hep-lat/0302020]
57. **“Scaling behavior of the overlap quark propagator in Landau gauge”**  
J. B. Zhang, P. O. Bowman, D. B. Leinweber, A. G. Williams and F. D. R. Bonnet  
Phys. Rev. D **70**, 034505 (2004) 6 pp. [arXiv:hep-lat/0301018]
56. **“Quark Contributions to Baryon Magnetic Moments in Full, Quenched and Partially Quenched QCD”**  
D. B. Leinweber  
Phys. Rev. D **69**, 014005 (2004) 22 pp. [arXiv:hep-lat/0211017]
55. **“Spin-3/2 Nucleon and Delta Baryons in Lattice QCD”**  
J. M. Zanotti, D. B. Leinweber, A. G. Williams, J. B. Zhang, W. Melnitchouk and S. Choe  
Phys. Rev. D **68**, 054506 (2003) 8 pp. [arXiv:hep-lat/0304001]
54. **“Nonperturbative Structure of the Quark Gluon Vertex”**  
J. I. Skullerud, P. O. Bowman, A. Kizilersu, D. B. Leinweber and A. G. Williams  
JHEP **0304**, 047 (2003) 16 pp. [arXiv:hep-ph/0303176]
53. **“Delta Baryon Magnetic Moments from Lattice QCD”**  
I. C. Cloet, D. B. Leinweber and A. W. Thomas  
Phys. Lett. B **563**, 157 (2003) 8 pp. [arXiv:hep-lat/0302008]
52. **“Convergence of Chiral Effective Field Theory”**  
R. D. Young, D. B. Leinweber and A. W. Thomas  
Prog. Part. Nucl. Phys. **50** 399-417 (2003) 19 pp. [arXiv:hep-lat/0212031]
51. **“Gluon Propagator on Coarse Lattices in Laplacian Gauges”**  
P. O. Bowman, U. M. Heller, D. B. Leinweber and A. G. Williams  
Phys. Rev. D **66**, 074505 (2002) 8 pp. [arXiv:hep-lat/0206010]

50. **“Chiral Analysis of Quenched Baryon Masses”**  
R. D. Young, D. B. Leinweber, A. W. Thomas and S. V. Wright  
Phys. Rev. D **66**, 094507 (2002) 10 pp. [arXiv:hep-lat/0205017]
49. **“Simple Quark Model with Chiral Phenomenology”**  
I. C. Cloet, D. B. Leinweber and A. W. Thomas  
Phys. Rev. C **65**, 062201 (2002) 4 pp. [arXiv:hep-ph/0203023]
48. **“Highly-Improved Lattice Field-Strength Tensor”**  
S. O. Bilson-Thompson, D. B. Leinweber and A. G. Williams  
Annals Phys. **304**, 1 (2003) 21 pp. [arXiv:hep-lat/0203008]
47. **“Excited Baryons in Lattice QCD”**  
W. Melnitchouk, J. N. Hedditch, D. B. Leinweber, A. G. Williams, J. M. Zanotti and J. B. Zhang  
[CSSM Lattice collaboration]  
Phys. Rev. D **67**, 114506 (2003) 17 pp. [arXiv:hep-lat/0202022]
46. **“Overlap Quark Propagator in Landau Gauge”**  
F. D. Bonnet, P. O. Bowman, D. B. Leinweber, A. G. Williams and J. b. Zhang [CSSM Lattice  
collaboration]  
Phys. Rev. D **65**, 114503 (2002) 13 pp. [arXiv:hep-lat/0202003]
45. **“Accelerated Overlap Fermions”**  
W. Kamleh, D. H. Adams, D. B. Leinweber and A. G. Williams  
Phys. Rev. D **66**, 014501 (2002) 9 pp. [arXiv:hep-lat/0112041]
44. **“Low-Lying Eigenmodes of the Wilson-Dirac Operator and Correlations with Topological Objects”**  
D. J. Kusterer, J. Hedditch, W. Kamleh, D. B. Leinweber and A. G. Williams  
Nucl. Phys. B **628**, 253 (2002) 5 pp. [arXiv:hep-lat/0111029]
43. **“Numerical Study of Lattice Index Theorem using Improved Cooling and Overlap Fermions”**  
J. B. Zhang, S. O. Bilson-Thompson, F. D. Bonnet, D. B. Leinweber, A. G. Williams and  
J. M. Zanotti  
Phys. Rev. D **65**, 074510 (2002) 7 pp. [arXiv:hep-lat/0111060]
42. **“Hadron Masses from Novel Fat-Link Fermion Actions”**  
J. M. Zanotti, S. Bilson-Thompson, F. D. R. Bonnet, P. D. Coddington, D. B. Leinweber,  
A. G. Williams, J. B. Zhang, W. Melnitchouk, and F. X. Lee [CSSM Lattice Collaboration]  
Phys. Rev. D **65**, 074507 (2002) 6 pp. [arXiv:hep-lat/0110216]
41. **“Chiral Behaviour of the Rho Meson in Lattice QCD”**  
D. B. Leinweber, A. W. Thomas, K. Tsushima and S. V. Wright.  
Phys. Rev. **D64**, 094502, 1–8 (2001) 8 pp. [arXiv:hep-lat/0104013]
40. **“Improved Smoothing Algorithms for Lattice Gauge Theory”**  
F. D. Bonnet, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
Phys. Rev. D **65**, 114510 (2002) 19 pp. [arXiv:hep-lat/0106023]
39. **“Nonperturbative Improvement and Tree-Level Correction of the Quark Propagator”**  
J. Skullerud, D. B. Leinweber and A. G. Williams  
Phys. Rev. D **64**, 074508 (2001) 9 pp. [arXiv:hep-lat/0102013]
38. **“Infinite Volume and Continuum Limits of the Landau-Gauge Gluon Propagator”**  
F. D. Bonnet, P. O. Bowman, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
Phys. Rev. **D64**, 034501, 1–10 (2001) 10 pp. [arXiv:hep-lat/0101013]

37. **“Chiral Symmetry and the Intrinsic Structure of the Nucleon”**  
D. B. Leinweber, A. W. Thomas and R. D. Young.  
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101. **“Towards selecting a finite-range regularization scale”**  
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76. **“Systematic uncertainties in the precise determination of the strangeness magnetic moment of the nucleon”**  
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74. **“The Hamiltonian Limit Of (3+1)D SU(3) Lattice Gauge Theory”**  
T. M. R. Byrnes, M. Loan, C. J. Hamer, F. D. R. Bonnet, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
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73. **“Quark-gluon vertex in arbitrary kinematics”**  
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70. **“Overlap quark propagator in Landau and Laplacian gauges”**  
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69. **“Properties of the FLIC Overlap Quark Propagator”**  
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68. **“FLIC Mesons: Hybrids and Exotics”**  
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66. **“Systematic uncertainties in the precise determination of the strangeness magnetic moment of the nucleon”**  
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65. **“Infrared and ultraviolet properties of the Landau gauge quark propagator”**  
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63. **“Electromagnetic form factors with FLIC fermions”**  
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61. **“Hybrid Meson Spectrum from the FLIC action”**  
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60. **“Strangeness Magnetic Moment of the Nucleon from FLIC Fermions”**  
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59. **“Nonperturbative renormalisation of composite operators with overlap quarks”**  
 J. B. Zhang, D. B. Leinweber, K. F. Liu and A. G. Williams [CSSM Lattice collaboration]

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56. **“Physical Baryon Resonance Spectroscopy from Lattice QCD”**  
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55. **“Dynamical FLIC Fermions”**  
 W. Kamleh, D. B. Leinweber and A. G. Williams  
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54. **“Scaling behavior of the Landau Gauge Overlap Quark Propagator”**  
 J. Zhang, F. D. Bonnet, P. Bowman, D. B. Leinweber, A. G. Williams  
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53. **“Electromagnetic Form Factors with FLIC Fermions”**  
 J. M. Zanotti, D. B. Leinweber, A. G. Williams and J. B. Zhang  
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52. **“Chiral Structure in Baryon Magnetic Moments”**  
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50. **“Observing Chiral Nonanalytic Behavior with FLIC Fermions”**  
 D. B. Leinweber, A. W. Thomas, A. G. Williams, R. D. Young, J. M. Zanotti and J. B. Zhang

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48. **“Progress In The Calculation Of Nucleon Form Factors And Parton Distribution Functions”**  
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45. **“Baryon Resonance Phenomenology”**  
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44. **“Hadron Masses from Novel Fat-Link Fermion Actions”**  
 J. M. Zanotti, S. Bilson-Thompson, F. D. R. Bonnet, D. B. Leinweber, A. G. Williams, J. B. Zhang, W. Melnitchouk, and F. X. Lee [CSSM Lattice Collaboration]  
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40. **“Chiral Nonanalytic Behaviour: The Edinburgh plot”**  
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39. **“Panel Discussion on Chiral Extrapolation of Physical Observables”**  
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38. **“Modelling the Quark Propagator”**  
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36. **“FLIC-Overlap Fermions and Topology”**  
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35. **“Towards the Continuum Limit of the Overlap Quark Propagator in Landau Gauge”**  
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28. **“Overlap Fermions, Improved Cooling and the Lattice Index Theorem”**  
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19. **“Theoretical Perspective on the Strangeness Magnetic Form Factor”**  
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17. **“Gluon and Quark Propagators in Landau Gauge from the Lattice”**  
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15. **“Improved Landau Gauge Fixing and Discretisation Errors”**  
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  9. **“Structure of the Gluon Propagator”**  
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5. **“A Few Points on Point-to-Point Correlation Functions”**  
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1. **“Lattice Calculation of Baryonic Electromagnetic Form Factors”**  
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## Publications – Conference Proceedings

10. **“Hadron structure on the back of an envelope”**  
 A. W. Thomas, R. D. Young and D. B. Leinweber  
 Frascati 2005, “Quark-hadron duality and the transition to pQCD,” 41-49 (2005) 9 pp.  
 [arXiv:nucl-th/0509082]  
*Invited talk at 1st Workshop on Quark-Hadron Duality and the Transition to pQCD, Frascati, Rome, Italy, 6-8 Jun 2005*
9. **“Hybrid mesons on the lattice with FLIC fermions”**  
 J. N. Hedditch, B. G. Lasscock, D. B. Leinweber, A. G. Williams and J. M. Zanotti  
 Proceedings of the Workshop on Gluonic Excitations, Newport News, Virginia, 14-16 May 2003 (2004) 10 pp.
8. **“The Nucleon Mass In Chiral Effective Field Theory”**  
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7. **“Nonperturbative Chiral Corrections for Lattice QCD”**  
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6. **“The Transition from Nonperturbative to Perturbative QCD”**  
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5. **“Lattice Gauge Theory Studies of the Gluon Propagator”**  
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4. **“Light Hadron Masses on Coarse Lattices with Improved Actions”**  
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“Williamsburg 1996, Particles and nuclei,” pp. 617–618 (1997) 2 pp. [arXiv:hep-lat/9606005]  
*Presented at PANIC 96, 14th International Conference on Particles and Nuclei, in Williamsburg, VA, May 22–28, 1996.*
3. **“New QCD Sum Rules for Nucleon Axial-Vector Coupling Constants”**  
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1. **“Hadronic Multipole Moments from Lattice QCD”**  
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“DPF Conf. 1992,” pp. 1494–1496, (World Scientific, 1993) 3 pp.  
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## Publications – Magazine Articles and QCD Visualizations

14. **“From Paradox to Paradigm”**. F. Wilczek. Contributed visualization of QCD vacuum action-density structure. *Les Prix Nobel. The Nobel Prizes 2004*, Editor Tore Frängsmyr, [Nobel Foundation], Stockholm, 2005.
13. **“Lattice QCD”**. Kurt Riesselman *et al.*. Contributed visualization of QCD vacuum action-density structure. “Symmetry Magazine, published jointly by Fermilab and the Stanford Linear Accelerator Facility (SLAC)” (2005)

12. **“Física de Partículas, Viaje al Interior del Protón”**. Bruno Juliá Díaz. Contributed two visualizations of proton structure as revealed in lattice QCD. *Heraldo de Aragon*, Tercer Milenio #447, 24 April 2007.
11. **“University Physics,” First Edition**. Wolfgang Bauer and Gary Westfall. Contributed visualization of the vacuum topological charge density, McGraw-Hill (2007).
10. **“Journey Into the Heart of Matter”**. Argonne National Lab, *et al.*. Contributed visualization of a meson “flux tube”. Office of Science, U.S. Department of Energy.  
<http://www.science.doe.gov/feature/NP.htm>
9. **“Canadian Subatomic Physics Long Range Plan”** Garth Huber *et al.* Contributed visualization of a meson “flux tube” Canadian Subatomic Physics Long Range Plan, 2006.  
[http://lichen.phys.uregina.ca/dnp/files/LRPC\\_Report\\_Final\\_06Nov.pdf](http://lichen.phys.uregina.ca/dnp/files/LRPC_Report_Final_06Nov.pdf)
8. **“Hadron Physics”**. I. J. D. MacGregor and R. Kaiser. Contributed cover image of the baryonic flux-tube distribution. In “Hadron Physics,” Scottish Graduate series (Chapman & Hall/CRC, Taylor & Francis) 2006.
7. **“UKQCD/IBM/Columbia QCDOC Lattice QCD Machine”**. Harry Yeates *et al.*. Contributed visualization of QCD vacuum structure. “PC Plus Magazine ([www.pcplus.co.uk](http://www.pcplus.co.uk)), published in the UK ” (2005)
6. **“Proceedings of the 58th Scottish Summer School in Physics”**. Ralf Kaiser *et al.*. Contributed visualization of baryon flux tubes. “Published by Institute of Physics Publishing, UK” (2005)
5. **“The Search for QCD Exotics”**. Alex R. Dzierba *et al.*. Contributed cover page visualization of meson flux tubes. “Postepy Fizyki (Advances in Physics), Polish Physical Society” (2005)
4. **“Physicists probe the proton”**  
Derek Leinweber and Cheryl Jones  
“Australian Partnership for Advanced Computing (APAC) Research using the National Facility 2001-2002” p. 21 (2002)
3. **“Las trituradoras de números”**  
Abraham Alonso *et al.*  
Contributed visualization of QCD vacuum structure.  
*Cartas MUY Magazine*, Madrid, Spain, No. **241** (2001) 154
2. **“Annual Report of the South Australian Branch of the Australian Institute of Physics”**  
D. B. Leinweber  
“The Physicist,” Vol. **38**, No. 2 (2001) 51
1. **“Annual Report of the South Australian Branch of the Australian Institute of Physics”**  
D. B. Leinweber  
“The Physicist,” Vol. **37**, No. 2 (2000) 68

## Publications – Newspaper Articles

16. **“Screaming Magnets”**  
Derek Leinweber  
Could renowned physicist Michael Faraday - as he played around with magnets and coils of wire in his 1831 laboratory - have anticipated the wild screams of Jimi Hendrix’s distorted guitar revolutionising the music scene of the ’60s?  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 24 November 2007.

15. **“Probably Certain”**  
Derek Leinweber  
Yes, the logic behind the universe is fuzzy. . . Article connects humour writer Douglas Adam’s *Infinite Improbability Drive* to the multiple paths a particle explores in quantum mechanics.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 1 July 2007.
14. **“Carbon Fading”**  
Derek Leinweber  
The world needs to drive a wedge into greenhouse emissions. Here are seven ways to clean up.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 19 May 2007.
13. **“Time to Ponder”**  
Derek Leinweber  
We all know it’s Einstein’s greatest idea. But what actually is it?  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 31 March 2007.
12. **“Wired For Quality”**  
Derek Leinweber  
Sometimes it does take a rocket scientist to figure out how to connect the DVD.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 17 February 2007.
11. **“Cricket in Full Swing”**  
Derek Leinweber  
There’s a third way to make a cricket ball move in the air. It’s called Contrast Swing.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 2 December 2006.
10. **“Turbulent Times”**  
Derek Leinweber  
Have you seen the new 2006 World Cup soccer ball? It’s called the “Teamgeist” and represents a radical departure from classic soccer-ball design.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 10 June 2006.
9. **“Surprise attack”**  
Derek Leinweber  
Explores soccer-ball aerodynamics with an emphasis on “the dip” induced by the turbulent to laminar flow transition at the critical speed.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 27 May 2006.
8. **“Food for thought”**  
Derek Leinweber  
Explains the link between greenhouse gases and the Antarctic ozone hole and their effects on Australia’s multibillion-dollar fishing and wine industries.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 6 May 2006.
7. **“Feelin’ Hot Hot Hot”**  
Derek Leinweber  
Links issues of global warming to recent changes in ocean thermohaline circulation.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 25 March 2006.
6. **“Swinger’s Delight”**  
Derek Leinweber  
Probes the mystery of cricket ball swing with an emphasis on the role of humidity.  
In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 31 December 2005.

5. **“To be or not to be. The weird, ghostly worlds of Einstein’s mind.”**  
 Derek Leinweber  
 Describes, in an engaging manner, the essential idea of non-locality in quantum mechanics and the challenges to realism that Einstein pondered extensively during the emergence of quantum mechanics.  
 In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 24 December 2005.
4. **“Striving for Gold”**  
 Derek Leinweber  
 Reviews the ancient Alchemist’s dream to turn lead into gold and reveals the manner in which it is done with modern-day nuclear physics.  
 In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 8 October 2005.
3. **“Behind the Seams”**  
 Derek Leinweber  
 Explores the aerodynamics behind cricket ball swing, including reverse swing.  
 In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 10 September 2005.
2. **“Need for Speed”**  
 Derek Leinweber  
 Describes what makes a modern supercomputer super.  
 In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 23 July 2005.
1. **“Explosive Origins”**  
 Derek Leinweber  
 Reveals the origin of the elements of the periodic table. We are made of star dust.  
 In the column *Can you Believe it?*, Adelaide Advertiser, Saturday 2 July 2005.

## Publications – Web Page Projects

7. **“Visualizations of Quantum Chromodynamics (QCD)”**  
 D. B. Leinweber  
<http://www.physics.adelaide.edu.au/theory/staff/leinweber/VisualQCD/Nobel/>  
 Includes animations featured in Prof. Frank Wilczek’s 2004 Nobel Prize Lecture  
 May 2003 to present
6. **“Origin of Mass”**  
 D. B. Leinweber  
<http://www.physics.adelaide.edu.au/theory/staff/leinweber/VisualQCD/OriginMass/>  
 Approximately 100 page requests per month  
 Aug 2001 to present
5. **“Visual QCD Archives”**  
 D. B. Leinweber  
<http://www.physics.adelaide.edu.au/theory/staff/leinweber/VisualQCD/QCDvacuum/>  
 Approximately 200 page requests per month  
 Sept 1999 to present
4. **“What Can You Do With a Physics Degree?”**  
 D. B. Leinweber  
<http://www.physics.adelaide.edu.au/aip-sa/PhysicsCareers.html>  
 Approximately 500 page requests per month  
 1997 to present

3. **“Physics Careers”**

D. B. Leinweber

<http://www.physics.adelaide.edu.au/jobs/Jobs.html>

Approximately 1500 page requests per month

1997 to present

2. **“Cool Links to Hot Topics in Physics”**

P. Bowman, D. B. Leinweber, A. W. Thomas

<http://www.physics.adelaide.edu.au/cssm/CoolLinks.html>

Approximately 900 page requests per month

1998 to present

1. **“Australian Institute of Physics Job Advertisements”**

D. B. Leinweber, *et al.*

<http://www.physics.adelaide.edu.au/jobs/AusJobs.html>

Approximately 300 page requests per month

1997 to 2003