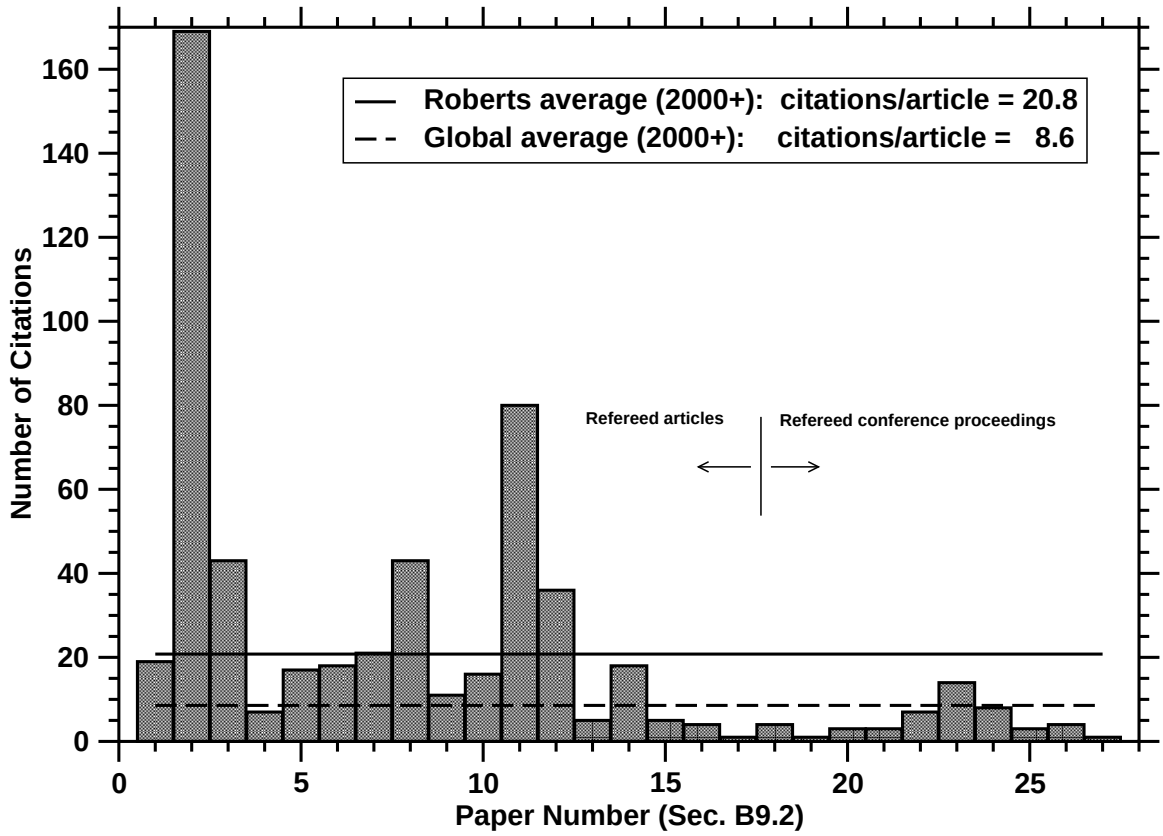

Figure 1: Citations accumulated since public release by each of the refereed articles reported in Sec. **B9.2**. The comparison data set for the *global average* is all articles posted on the nuclear theory archive: http://arxiv.org/archive/nucl-th, in or after the year 2000.

B9.2 All publications in the past five years

B9.2a Books Edited

1. **Understanding Deconfinement in QCD**,
   edited by D. Blaschke, F. Karsch and C.D. Roberts
   (World Scientific, Singapore, 2000) 354 pages.

B9.2b Refereed Articles

1. MARIS, P., ROBERTS, C.D. and SCHMIDT, S.M. and TANDY, P.C.
   ***T*-dependence of pseudoscalar and scalar correlations**
   nucl-th/0001064, Phys. Rev. C 63 (2001) 25202 (12 pages).
   Citations: 19

2. ROBERTS, C. D. and SCHMIDT, S. M. ..... *
   Dyson-Schwinger Equations:
   Density, Temperature and Continuum Strong QCD
   nucl-th/0005064, Prog. Part. Nucl. Phys. 45 (2000) pp. S1-S103.
   Citations: 169

3. HECHT, M.B., ROBERTS, C.D. and SCHMIDT, S.M. ..... *
   Valence Quark Distributions in the Pion
   nucl-th/0008049, Phys. Rev. C 63 (2001) 025213 (8 pages).
   Citations: 43

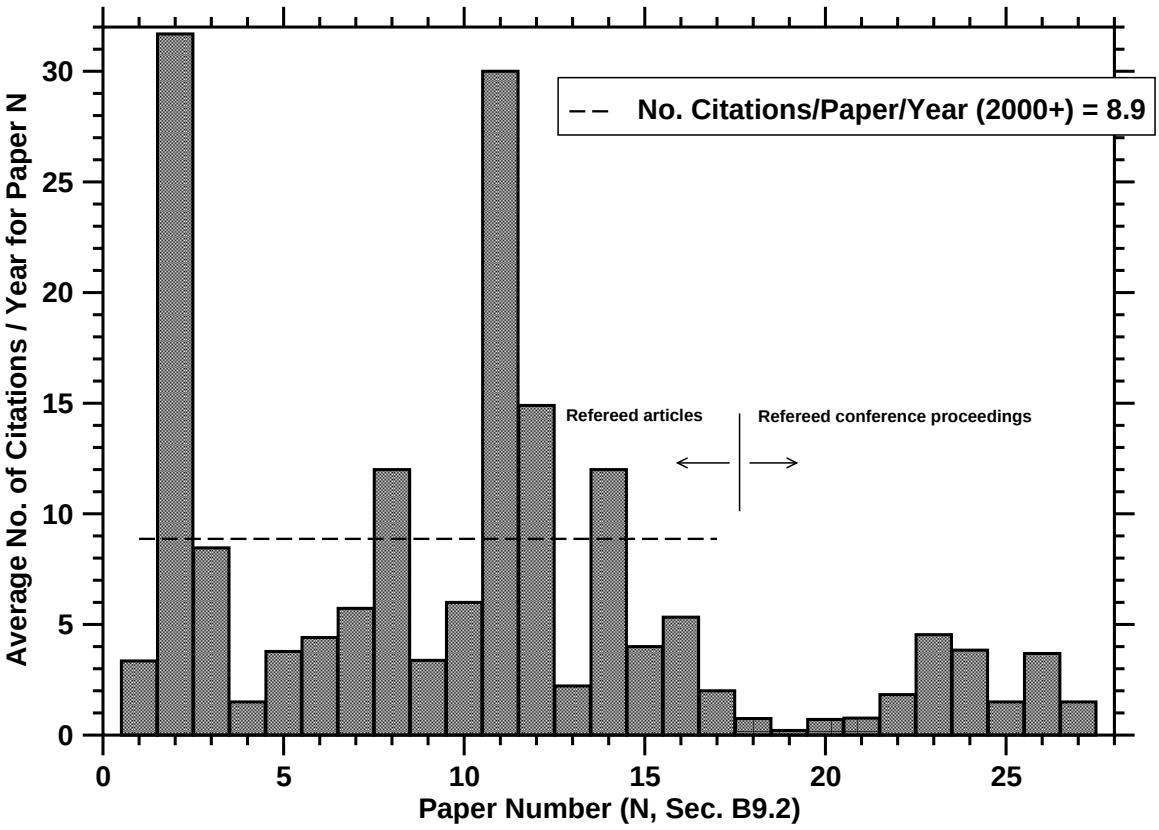

Figure 2: Average number of citations/year received by each one of the articles listed in Sec. **B9.2** since it was publicly released. (This is an alternative depiction of the information in Fig. 1.) Within this period, excluding conference proceedings, each of my articles has received an average of 8.9 citations/year. (This is indicated by the dashed-line.) Including the conference proceedings that number becomes 6.3. NB. On average a published article posted within this period to the nuclear theory archive: http://arxiv.org/archive/nucl-th, has received 2.8 citations/year.

4. HECHT, M.B., ROBERTS, C.D. and SCHMIDT, S.M. ..... *
   Neutron electric dipole moment: Constituent-dressing and compositeness
   nucl-th/0101058, Phys. Rev. C 64 (2001) 025204 (9 pages).
   Citations: 7

5. VINNIK, D.V., SCHMIDT, S.M., PROZORKEVICH, A.V., SMOLYANSKY, S.A., TONEEV, V.D., HECHT, M.B. AND ROBERTS, C.D.
   Plasma production and thermalization in a strong field
   nucl-th/0103073, Eur. Phys. J. C 22 (2001) 341-349.
   Citations: 17

6. ALKOFER, R., HECHT, M.B., ROBERTS, C.D., SCHMIDT, S.M. and VINNIK, D.V.
   Pair Creation and an X-ray Free Electron Laser
   nucl-th/0108046, Phys. Rev. Lett. 87 (2001) 193902 (4 pages).
   Citations: 18

7. HECHT, M.B., ROBERTS, C.D., OETTEL, M., THOMAS, A.W., SCHMIDT, S.M and TANDY, P.C. ..... *
Nucleon mass and pion loops
nucl-th/0201084, Phys. Rev. C 65 (2002) 055204 (17 pages).
Citations: 21

8. BENDER, A., DETMOLD, W., ROBERTS, C.D. and THOMAS, A.W. ..... *
Bethe-Salpeter equation and a nonperturbative quark-gluon vertex
nucl-th/0202082, Phys. Rev. C 65 (2002) 065203 (16 pages).
Citations: 43

9. ROBERTS, C.D., SCHMIDT, S.M. and VINNIK, D.V.
Quantum effects with an X-ray free electron laser
nucl-th/0206004, Phys. Rev. Lett. 89 (2002) 153901 (4 pages).
Citations: 11

10. LANGFELD, K., PULLIRSCH, R., MARKUM, H., ROBERTS, C.D. and SCHMIDT, S.M. ..... *
Concerning the quark condensate
nucl-th/0301024, Phys. Rev. C 67 (2003) 065206 (7 pages).
Citations: 16

11. MARIS, P. and ROBERTS, C.D. ..... *
Dyson-Schwinger equations: a tool for hadron physics
nucl-th/0301049, Intern. J. Mod. Phys. E 12 (2003) pp. 297-365 .
Citations: 80

12. BHAGWAT, M.S., PICHOWSKY, M.A., ROBERTS, C.D. and TANDY, P.C. ..... *
Analysis of a quenched lattice-QCD dressed-quark propagator
nucl-th/0304003, Phys. Rev. C 68 (2003) 015203 (9 pages).
Citations: 36

13. BLOCH, J.C.R., KRASSNIGG, A. AND ROBERTS, C.D. ..... *
Regarding proton form factors
nucl-th/0306059, Few Body Syst. 33 (2003) pp. 219-232.
Citations: 5

14. BHAGWAT, M.S., HÖLL, A., KRASSNIGG, A., ROBERTS, C.D. and TANDY, P.C. *
Aspects and consequences of a dressed-quark-gluon vertex
nucl-th/0403012, Phys. Rev. C 70 (2004) 035205 (15 pages).
Citations: 18

15. HÖLL, A., KRASSNIGG, A. AND ROBERTS, C.D. ..... *
Pseudoscalar Meson Radial Excitations
nucl-th/0406030, Physical Review C 70 (2004) 042203(R) (5 pages).
Citations: 5

16. ALKOFER, R., HÖLL, A., KLOKER, M., KRASSNIGG, A. AND ROBERTS, C.D. *
On Nucleon Electromagnetic Form-Factors
nucl-th/0412046, Few Body Systems 37 (2005) pp. 1-31.
Citations: 4

17. HÖLL, A., KRASSNIGG, A., MARIS, P., ROBERTS, C.D. and WRIGHT, S.V. .... *
Electromagnetic properties of ground and excited state pseudoscalar mesons
nucl-th 0503043, Phys. Rev. C 71 (2005) 065204 (12 pages).
Citations: 1

B9.2c Refereed Conference Proceedings

18. HECHT, M. B., ROBERTS, C.D. and SCHMIDT, S.M. ..... *
DSE Hadron Phenomenology
in Proceedings of the *Workshop on Light-Cone QCD and Nonperturbative Hadron Physics*, edited by A.W. Schreiber and A.G. Williams (World Scientific, Singapore, 2000) pp. 262-268, nucl-th/0005067.
Citations: 4

19. HECHT, M.B., ROBERTS, C.D. and SCHMIDT, S.M. ..... *
Dyson-Schwinger Equations - Aspects of the Pion
nucl-th/0011005, Int. J. Mod. Phys. A 16 S1C (2001) pp. 1241-1244.
Citations: 1

20. HECHT, M.B., ROBERTS, C.D. and SCHMIDT, S.M. ..... *
The Character of Goldstone Bosons
in *Lepton Scattering, Hadrons and QCD*, edited by W. Melnitchouk, A.W. Schreiber, A.W. Thomas and P.C. Tandy (World Scientific, Singapore, 2001) pp. 219-227, nucl-th/0106011.
Citations: 3

21. HECHT, M.B. and ROBERTS, C.D. ..... *
Modern Dyson-Schwinger Equation Studies
nucl-th/0110058, πN Newsletter 16 (2002) pp. 204-212.
Citations: 3

22. ROBERTS, C.D. ..... *
Goldstone Boson's Valence-Quark Distribution
nucl-th/0111030, Nucl. Phys. Proc. Suppl. 108 (2002) pp. 227-233.
Citations: 7

23. MARIS, P., RAYA, A., ROBERTS, C.D., and SCHMIDT, S.M. ..... *
Facets of confinement and dynamical chiral symmetry breaking
nucl-th/0208071, Eur. J. Phys. A 18 (2003) pp. 231-235.
Citations: 14

24. KRASSNIGG, A. AND ROBERTS, C.D. ..... *
DSEs, the pion, and related matters
nucl-th/0308039, Fizika B 13 (2004) pp. 143-152.
Citations: 8

25. KRASSNIGG, A. AND ROBERTS, C.D. ..... *
Dyson-Schwinger Equations: An Instrument for Hadron Physics.
nucl-th/0309025, Nucl. Phys. A 737 (2004) pp. 7-15.
Citations: 3

26. HÖLL, A., KRASSNIGG, A. AND ROBERTS, C.D. ..... *
Confinement, DCSB, Bound States, and the Quark-Gluon Vertex
nucl-th/0408015, Nucl. Phys. B (Proc. Suppl.) 141 (2005) pp. 47-52.
Citations: 4

27. HÖLL, A., ALKOFER, R., KLOKER, M., KRASSNIGG, A. AND ROBERTS, C.D. *
On Nucleon Electromagnetic Form-Factors: A Précis
nucl-th/0501033, Nucl. Phys. A 755 (2005) pp. 298-302.
Citations: 1

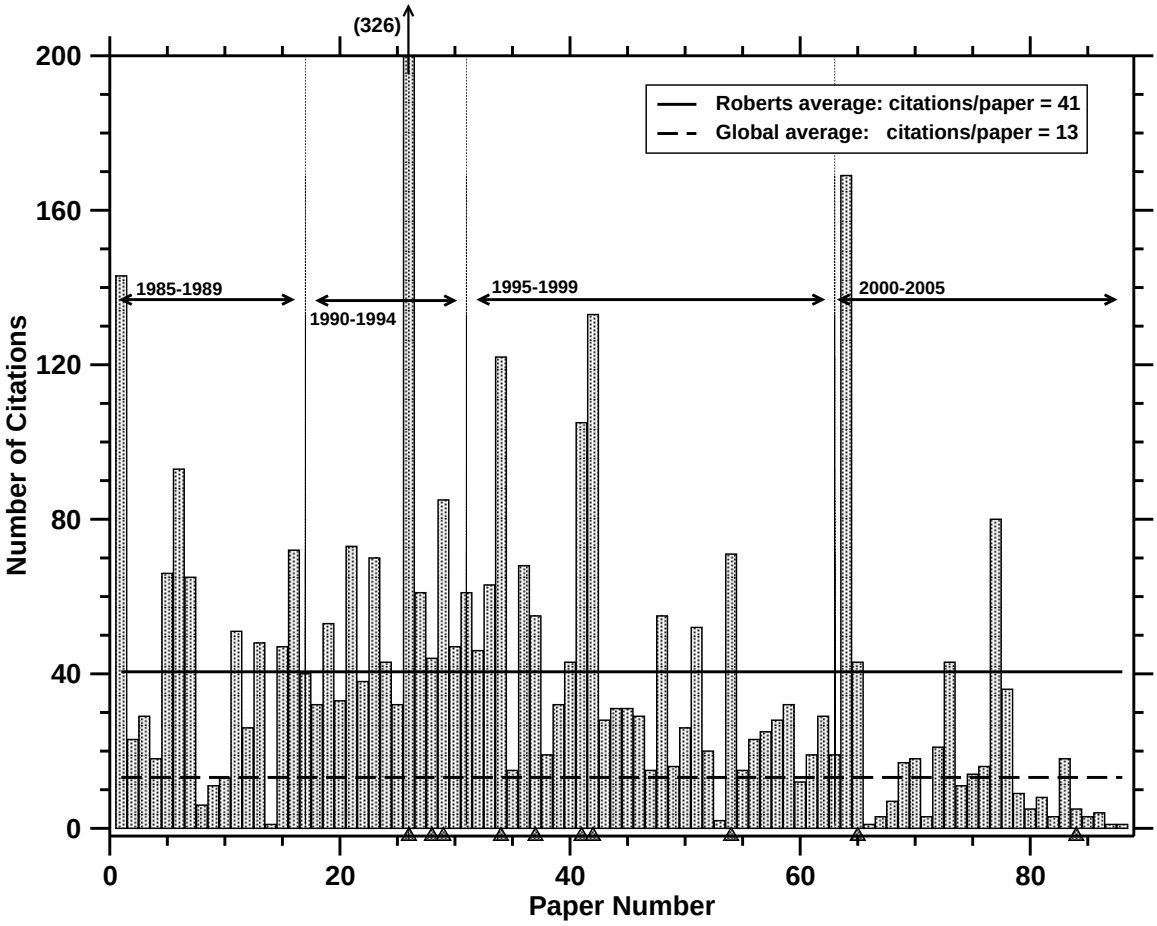

Figure 3: Citations accumulated by each of my papers since public release. The filled triangles indicate the *top-10* publications described in Sec. **B9.3**. For orientation, Ref. [1] on page 17 is paper no. 26 and Ref. [10] on page 19 is paper no. 84. The comparison data set for the *global average* is all articles posted on the nuclear theory archive: http://arxiv.org/archive/nucl-th, since inception in the year 1992.

B9.3 Ten career-best publications

1. ROBERTS, C.D. and WILLIAMS, A.G.
   Dyson-Schwinger Equations and their Application to Hadronic Physics
   hep-ph/9403224; Prog. Part. Nucl. Phys. **33** (1994) pp. 477-575.
   Citations: 326 . . . *First major exposition of the application of continuum Green function methods to diverse strong coupling phenomena in quantum gauge field theory. A leading theme-setting paper in nuclear and particle physics (see page 20).*

2. DONG, Z., Munczek, H.J. and ROBERTS, C.D.
   Gauge covariant fermion propagator in quenched, chirally symmetric Quantum Electrodynamics
   hep-ph/9403252; Phys. Lett. B 333 (1994) pp. 536-544.
   Citations: 44 . . . *Key contribution to the theory of nonperturbative symmetry-preserving regularisation in quantum field theory. Basis for all subsequent successful symmetry-preserving studies of hadron electromagnetic properties.*

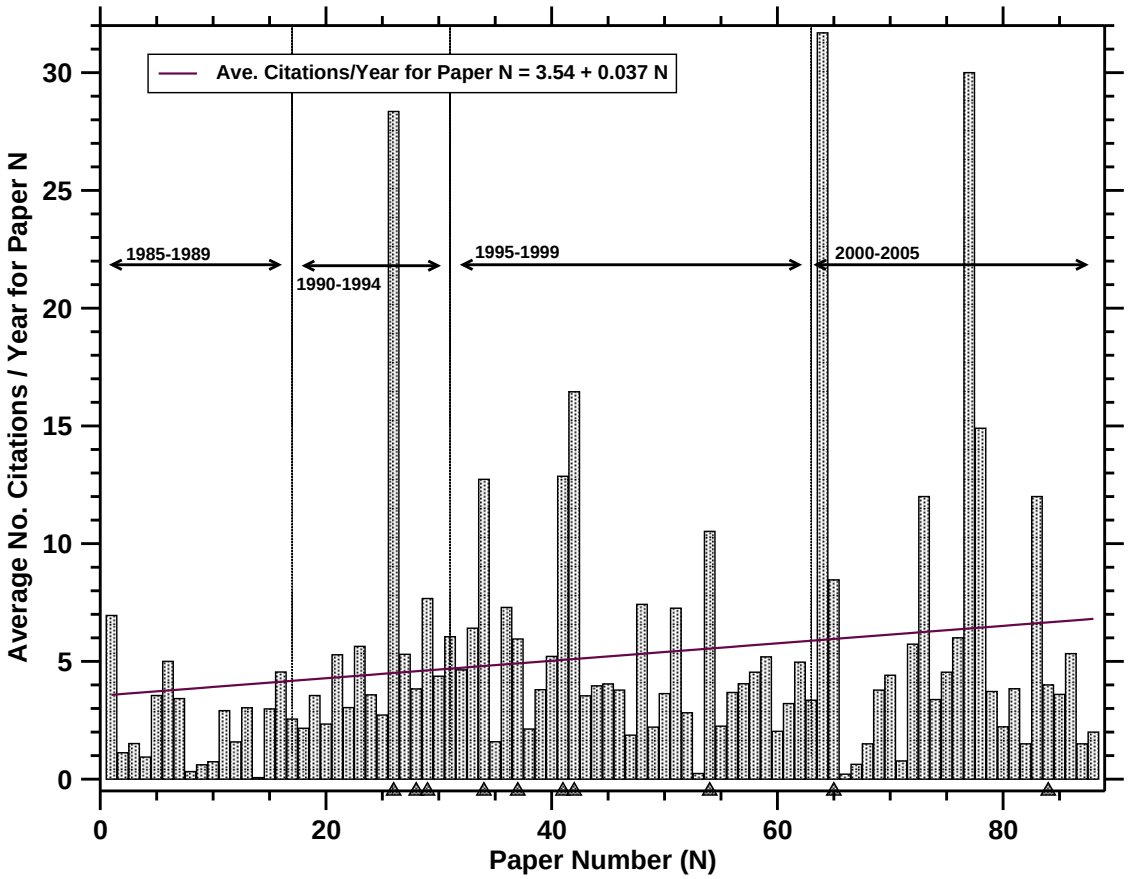

Figure 4: Average number of citations/year received by each one of my articles since it was publicly released. The straight-line overlaying the bar-chart indicates the continuing rapid growth in the impact of my research: papers published at the beginning of my career average 3.8 citations/year; and those published recently average 6.8 citations/year; i.e., an increase of 190%. The filled triangles indicate the *top-10* publications described in Sec. **B9.3**. For orientation, Ref. [1] on page 17 is paper no. 26 and Ref. [10] on page 19 is paper no. 84. NB. On average a published article posted in 2004 to the nuclear theory archive: http://arxiv.org/archive/nucl-th, receives 2.9 citations/year cf. my average rate in 2004 of 6.7 citations/paper/year.

3. ROBERTS, C. D.
   Electromagnetic pion form-factor and neutral pion decay width
   hep-ph/9408233; Nucl. Phys. A 605 (1996) pp. 475-495.
   Citations: 85 . . . *Pioneering symmetry-preserving study of hadron electromagnetic properties, which provides the foundation for all subsequent studies. First paper to demonstrate the essential interplay between dynamical chiral symmetry breaking (DCSB) and anomalies in gauge field theories.*

4. BENDER, A., ROBERTS, C.D. and SMEKAL, L. v.
   Goldstone Theorem and Diquark Confinement Beyond Rainbow-Ladder Approximation
   nucl-th/9602012; Phys. Lett. B 380 (1996) pp. 7-12.
   Citations: 122 . . . *This study introduced what remains today the only extant nonperturbative systematic symmetry-preserving truncation scheme of the Euler-Lagrange equations of quantum field theory.*

5. BENDER, A., BLASCHKE, D., KALINOVSKY, Yu. and ROBERTS, C. D.
Continuum study of deconfinement at finite temperature
nucl-th/9606006; Phys. Rev. Lett. 77 (1996) pp. 3724-3727.
Citations: 55 ... *Article which introduced a continuum order parameter for deconfinement, and used it to establish and understand the coincidence of deconfinement and chiral symmetry restoration at nonzero temperature in a wide class of realistic strong-interaction models.*

6. MARIS, P., ROBERTS, C. D. and TANDY, P. C.
Pion mass and decay constant
nucl-th/9707003; Phys. Lett. B 420 (1998) pp. 267-273.
Citations: 105 ... *First complete proof of Goldstone's theorem in quantum chromodynamics plus numerous corollaries, all with wide-ranging impact in both the perturbative and nonperturbative domains. Implications of the results proved are still being uncovered.*

7. MARIS, P. and ROBERTS, C. D.
π- and K-meson Bethe-Salpeter amplitudes
nucl-th/9708029; Phys. Rev. C 56 (1997) pp. 3369-3387.
Citations: 133 ... *First manifestly Poincaré covariant and symmetry preserving calculation of pseudoscalar meson properties. Illustrates the exact results proved in Ref. [6]. Foundation for most successful extant phenomenology of pseudoscalar and vector meson properties.*

8. IVANOV, M. A., KALINOVSKY, Yu. L. and ROBERTS, C. D.
Survey of heavy meson observables
nucl-th/9812063; Phys. Rev. D 60 (1999) 034018, 17 pages.
Citations: 71 ... *Article proves exact results for systems containing one light and one heavy quark; establishes that a long held assumption based on non-relativistic quark models is a corollary of the proof given; and provides first (and still only) unified symmetry-preserving treatment of light- and heavy-quark systems.*

9. HECHT, M. B., ROBERTS, C.D. and SCHMIDT, S.M.
Valence Quark Distributions in the Pion
nucl-th/0008049; Phys. Rev. C 63 (2001) 025213 (8 pages).
Citations: 43 ... *First calculation of valence quark distribution in a bound state that is both a quark-antiquark composite and a Goldstone mode. Result reignited debate about the true form of the distribution in the valence region. Verifying the result I confirmed is crucial to the foundation of the Standard Model.*

10. HÖLL, A., KRASSNIGG, A. and ROBERTS, C.D.,
Pseudoscalar Meson Radial Excitations
nucl-th/0406030; Phys. Rev. C 70 (2005) 042203(R) (5 pages)
Citations: 5 ... *Proof in quantum chromodynamics that ground state pion lifetime is short because of magnitude of DCSB, and that when chiral symmetry is dynamically broken all pseudoscalar mesons except the ground state must decouple from the weak interaction in the limit of massless quarks. Establishes that effects of DCSB are felt over a wide range of energy scales.*

Comments on Significance and Impact

These articles highlight my contributions to the theory of relativistic quantum field theory and the phenomenology of hadron and particle physics, which were recognised in election to Fellowship of the American Physical Society in 2001 "*For significant contributions to continuum modeling of QCD for hadron physics, linking both quark-gluon confinement and dynamical chiral symmetry breaking with light meson observables.*"

The particular importance of the publications is detailed in Sec. **B9.1** on page 10. Here I append some additional observations.

- In a 2002 analysis of 63 128 publications in the SPIRES High-Energy Physics Database, Publication 1. in this list:

  "Dyson-Schwinger Equations and their Application to Hadron Physics"

  was identified as the fundamental reference for the fourth most important research theme in contemporary high-energy and nuclear physics. (143 distinct themes were identified.) See Fig. 3 on page 17.

- General Comparison

	average citations/article
"Ten Best"	99

  The average number of citations/article for articles posted on the nucl-th archive is 9.

NB. All citation information is on the public record and compiled from the SPIRES data base:
`http://www.slac.stanford.edu/spires/hep/`