

Gerald A. Miller CURRICULUM VITAE Oct. , 2022

Name: Gerald Alan Miller web page
Address: Physics Department, 351560 206-543-2995
 University of Washington
 Seattle, Washington 98195 Marital Status: Married, two offspring

Date and Place of birth: March 20, 1947, New York City

Education:

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| Bronx High School of Science | 1963 |
| City College of New York | 1967 |
| Massachusetts Institute of Technology, M.S. | 1968 |
| Massachusetts Institute of Technology, Ph.D. | 1972 |

Employment:

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|--|------------------------|------------------------------|
| University of Washington, Seattle, Washington 98195 | 1985 - present | Professor |
| | 1980 - 1985 | Associate Professor |
| | 1975 - 1980 | Research Assistant Professor |
| University of Adelaide, Adelaide, Australia | 2003, 2010, 2011, 2017 | Visiting Professor |
| Hebrew University of Jerusalem | 2018 | Visitor |
| Tel Aviv University | 2018 | Visitor |
| Argonne National Laboratory | 2018 | Visitor |
| MIT | 2017 | Sabbatical Visitor |
| Jefferson Laboratory | 2000-2003 | Program Advisory Comm. |
| Jefferson Laboratory | 2004, 2010 | Visiting Theorist |
| Lawrence Berkeley Laboratory | 2004, 2011 | Visiting Theorist |
| Brookhaven National Laboratory | 2004 | Visiting Theorist |
| ECT*, Trento | 2003 | Visiting Theorist |
| Stanford Linear Accelerator Center | 1997 | Visiting Theorist |
| TRIUMF | 1988 - 1989 | Visiting Staff Member |
| University of Illinois | 1989 | Visiting Research Professor |
| CERN, Geneva, Switzerland | 1982 - 1983 | Paid Scientific Associate |
| Los Alamos National Laboratory | 1986 | Visiting Staff Member |
| Los Alamos National Laboratory | 1979-1982 | Prog. Advis. Comm |
| Carnegie-Mellon University | 1972 - 1975 | Research Physicist |

Honors and Awards:

CCNY: New York Regents Scholarship, New York College Teaching Fellowship

CCNY: Dean's List, Magna Cum Laude, Phi Beta Kappa, Sigma Xi, Three Varsity Letters Lacrosse
Graduate Fellowship at MIT

Fellow, American Physical Society

Fellow, American Association for the Advancement of Science

Designated as Outstanding Referee by the American Physical Society, initial set 2008

UW Physics Dep't Outstanding Graduate Instructor Award, 2016

UW Physics Dep't Outstanding Undergraduate Instructor Award, 2020

Southgate Fellowship, Adelaide University 2017-2018

Sahoul Fellow, Sackler Inst. of Advanced Studies, 2018, Tel-Aviv University

The Batsheva de Rothschild Fellowship Hebrew University 2018

Recipient of the 2022 DNP Mentoring Award

Outside Professional Positions:

Program Advisory Committee, Los Alamos National Laboratory, 1979-1982

Science Policy Advisory Committee, Los Alamos National Laboratory, 1983-1986

Editorial Board Member, Physical Review C, 1986-1988

Program committee, DNP, American Physical Society, 1985-1987

Member, APS Task Force to review *Reviews of Modern Physics*, 1992-1993

Organizer, national Institute for Nuclear Theory programs or workshops, 1990-92; 1994; 1996;
1998(2); 2001, 2004; 2009, 2012, 2013

Organizer, ECT* (Trento Workshops), 2000, 2012, 2013

National Science Foundation, Nuclear Theory panel member, 1997, 2003, 2012

Physics Today, panel member for book reviews, 1997-2002

Program Advisory Committee member for Jefferson Laboratory 2000-2003

Managing Editor, International Journal Modern Physics E, 2004-2006

Program Committee Member for many international meetings and workshops

USA Correspondent for Nuclear Physics News International, 2004-2012

Jefferson Laboratory S & T Review Committee 2006

Chairman, Jefferson Laboratory EBAF review committee, 2009

Member, DOE panel to review Nuclear Theory in National Laboratories, 2009

Member of DNP of American Physical Society Thesis Award, 2011

Member Executive Committee of the Division of Nuclear Physics of the APS, 2010-2012

Chairman, Committee to Establish the Herman Feshbach Prize of the APS 2011-

Chairman Committee to Select the First Herman Feshbach Prize winner (2013)

Member, DOE committee, review Super Big-Bite Spectrometer at JLab (2013)

Physics Ph. D. Program reviewer for Florida International University 2015

Member, DNP Fellowship committee, 2015, 2016

Convener, Conference on Intersections Between Nuclear and Particle Physics, 2018

National Science Foundation, Atomic, Molecular and Optical -Theory panel member

Research Contracts:

- Co-principal investigator on DOE contract since 1975. PI since 1997. Mentored many.
- One of three authors originating a first draft proposal that ultimately led to the formation of the INT
- DOE contract for bridge faculty position at U.W. with Jefferson Lab 1997-2001.
- U.S. Civilian Research & Development Foundation (CRDF) grant to study Light Front Dynamics” 2005-2006
- NIH grant to study Protein Interaction Networks 2005-2007
- Grant from Argonne National Laboratory, 2018
- DOE Grants from PNNL 2019, 2020

Administrative Positions

Department of Physics Executive Committee 1998-2003

UW Faculty Council on Student Affairs 1996-1999

Chairman of Physics Qualifying Exam Committee, several years

Chairman, UW Committee on Admissions and Standards, 1996

Chairman, Member Physics Faculty Search Committee several years

Physics Graduate Program Advisor 1999-2004

Chairman Physics Graduate Committee 2005-2007

Chairman and Member (2010-) UW Faculty Council on Research (FCR) 2005-2009,2009-2014

Chairman and Member UW FCR Subcommittee on Classified/Restricted Research 2005-2006

Member UW Faculty Senate Committee on Interdisciplinary Research 2007

Member UW Faculty Senate Executive Committee 2010-2011

Member UW Research Advisory Board 2010-2011

Member UW Advisory Board for Overhead 2010-2011

Member UW Intellectual Property Advisory Committee 2012-present

Member UW Senate Special Committee on Intellectual Property 2012-present

Member UW President’s Advisory Committee:Enterprise Risk Management 2010, 2012-2014

Member UW President’s Advisory Committee to select the UW Annual Faculty Lecturer 2013, 2014

Member UW Steering Committee on the F& A (Overhead) Rate 2012-2014

UW Ph. D. Graduates, year approximate

C-Y Cheung 1980, M. Morgan 1986, G. Crawford 1987, C. Benesh 1989

D. Driscoll 1989, H. Jung 1991, W. Greenberg 1996, D. Makovoz 1996

J. J. Karakoski 1999, J. R. Cooke 2002, B. Tiburzi. 2003, J. R. Smith. 2006

M. Luzum 2008, D. R. Bolton 2011, G. T. Howell 2013, Y-S. Liu 2017

Summary of Main Research Accomplishments (Numbers refer to publication list of > 300 refereed articles)

My work has been cited more than 15,500 times (h number = 62) according to Google Scholar Citations, and more than 12,630 times, h=56 on hepinspire.

http://scholar.google.com/citations?user=3br2__AAAAAJ

- Provided the formal and computational tools necessary to analyze pion-nucleus reactions [3,6,13,14]. Wrote the program used to analyze virtually all of LAMPF pion-nucleus inelastic scattering data, clarified the role of nucleon-nucleon correlations in pion-nucleus double charge exchange reactions, and introduced what became known as the Miller-Spencer correlation function used in calculations of parity-violating nuclear matrix elements [13].
- Originated and applied the cloudy bag model of hadrons [39,42,47,71] a model that explained the neutron electric form factor, the true nature of the Delta resonance, and the M1 radiative decays of mesons. Prediction [89] of the rate for pseudovector D meson to decay into a pseudoscalar D and a pion verified in a 2000 CLEO experiment.
- Unveiled and computed the charge symmetry breaking part of the neutron-proton force that was subsequently observed in experiments at TRIUMF and IUCF in a series of papers: [4,27,36,57,87,103,201] Introduced the quark-based definition (up-down quark mass difference) of charge symmetry [103]. Participated in the first experimental observation of the $dd \rightarrow \alpha\pi^0$ reaction [201]. The most recent work on charge symmetry breaking in pion production has recently been highlighted in Science News, Nature, CERN Courier, and Physics World. It was also rated the #49 top science story in 2003 by Discover magazine.
- Showed that the nuclear Drell Yan process could be used to probe the nuclear antiquark distribution [67,75]. A popular account is given in a LANL Physics Div. Progress Report, 1997-1998. Showed [204] how the chiral soliton model leads to nuclear saturation, explains the EMC effect and Drell-Yan data and predicts modifications of the nucleon electromagnetic form factor [209].
- Our 1989 prediction [100] of the parity violating proton-proton total cross section verified in a 2001 experiment at TRIUMF.
- Connected the strong coupling limit of QCD and nuclear physics [96].
- Established the tools required to accurately compute the effects of color transparency [113,123,126,128], including establishing equivalence of the hadron matrix element and quantum diffusion approaches to small-sized wave packet expansion. Prediction [131] of A-dependence of di-jet production in coherent pion-nucleus reactions made in 1993 was confirmed by experiments in 1999. QCD basis of the prediction elucidated [169,179]. Prediction of color transparency effects in electroproduction of pions [220] participation in the experimental verification [230].
- Applied chiral perturbation theory to explain the threshold production of neutral pions in proton-proton collisions [150,153]

- Developed light front field theory for nuclear physics[155,157,165,166]. Showed how to recover of rotational invariance[162].
- Predicted [151] a rapid decrease of the elastic electric form factor observed recently at Jlab, provided a qualitative explanation [188], described all electromagnetic form factors [192], and introduced spin-dependent density operators to exhibit the non-spherical shape of the proton[200]. Later it was realized that these operators correspond to specific TMDs and GPDs. Lattice calculations verified this non-spherical nature of the proton's density. This work received a lot of attention in the popular press including the NY Times and USA Today.
- Used model-independent techniques to show that the charge density at the center of the neutron is negative [228], and that the magnetization density of the proton extends further than its charge density [232]. Showed that the non-spherical shape of the proton could be measured [231] in terms of a transverse momentum distribution. Predicted that medium modifications enhance the neutron ratio G_E/G_M . [239]
- Originated a quantum mechanical treatment of HBT correlations that showed that RHIC data was consistent with the presence of a chiral phase transition [211]. This work was discussed in the Wall St. Journal and was selected to be the subject of a column in Nature published by F. Wilczek.
- Entered into biophysics. Derived a new model in which free energy distributions account for the properties of protein interaction networks [221,223].
- Entered into atomic physics by calculating a variety of nucleon structure effects to improve the accuracy of the extraction of the proton radius from muonic atom data. [251,255,264,265]. Provided a testable hypothesis to explain the difference between radii extracted from muonic and electronic hydrogen experiments [264]. Tested the hypothesis of the existence of a new scalar boson that accounts for the extant data, and found ways to search for it [290,292,294,309]. Presented a unified approach to understanding the meaning of the proton radius [303]
- Found new limits on the the nucleon strangeness $s\bar{s}$ content, and its effect on supernovae explosions [280,288].
- Found a new way to discuss color charge distributions of the proton [306].
- Presented the first treatment of light-front Fock-space wave functions that involve 3 spatial dimensions (instead of 2 space, one momentum) [315].
- Analyzed ATOMKI experiment using an EFT approach that disproved any explanation that involves non-SM vector bosons [296,318].
- Provided the first relativistically-correct (light-front) formalism for the forces that act inside the proton, and used it to describe new data [320,321]
- Showed that the Feynman Mechanism is responsible for the proton electromagnetic form factor at high momentum transfer. [323]

Publications– Refereed Journals red: ≥ 50 iNSPIRE Citations blue: ≥ 100 iNSPIRE citations
Gerald A. Miller

1. “The Role of Pairing in the Formation of Double Analogues in Heavy Nuclei,” Phys. Rev. Lett. 28, 372 (1972) (with A.K. Kerman).
2. “Neutron Escape from Isobaric Analogue Resonances,” Nucl. Phys. A212, 287 (1973).
3. “Positive Pion Production by 185 MeV Protons,” Nucl. Phys. A224, 269 (1974).
4. “Angle Transformation for π -Nucleus Optical Potential,” Phys. Rev. C 9, 1205 (1974) (with E. Kujawski).
5. “Effects of Nuclear Polarizability on Pion Elastic Scattering,” Nucl. Phys. A223, 477 (1974).
6. “PIRK-A Computer Program to Calculate the Elastic Scattering of Pions from Nuclei,” Computer Physics Communications 8, 130 (1974) (with R.A. Eisenstein).
7. “The Use of ‘New’ Pion Optical Potentials in the (p, π^+) and (π^+, p) Reactions,” Phys. Lett. 51B, 129 (1974) (with S.C. Phatak).
8. “Angle Transformation for the Pion-Nucleus Optical Potential,” Phys. Rev. C 10, 1242 (1974).
9. “Pion Charge Exchange Reactions with Nuclei,” Phys. Lett. 53B, 329 (1974) (with J.E. Spencer).
10. “The (π, d) Reaction for Small Incident Pion Energies,” Phys. Rev. C 11, 2001 (1975) (with R.A. Eisenstein).
11. “Implications of High Energy Pi-Nucleon Data for Elastic Pi-Nucleus Scattering,” Phys. Rev. C 12, 1962 (1975) (with D.J. Ernst).
12. “The (p, π^-) Reaction and Δ^{++} Components of Nuclei,” Nucl. Phys. A254, 493 (1975) (with L.S. Kisslinger).
13. “Pion Charge Exchange Reactions with Nuclei,” Annals of Physics (N.Y.), 100, 562 (1976) (with J.E. Spencer).
14. “DWPI-A Computer Program to Calculate the Inelastic Scattering of Pions from Nuclei,” Computer Physics Communications 11, 95 (1976) (with R.A. Eisenstein).
15. “Effects of the (π, N) Reaction on π -Nuclear Elastic Scattering,” Phys. Rev. C 14, 361 (1976).
16. “Pi-Nucleon Scattering,” Phys. Rev. C 14, 2230 (1976).
17. “A Correlation Expansion of the Optical Potential,” Phys. Rev. C 16, 537 (1977) (with D.J. Ernst, J.T. Londergan, and R.M. Thaler).
18. “Multiple-Scattering Aspects of the Pi-Nucleus Low Equation,” Phys. Rev. Lett. 38, 753 (1977).
19. “Field Theoretic Treatment of π -Nuclear Scattering,” Phys. Rev. C 16, 2325 (1977).
20. “A Vanishing Closure Correction in the Second-Order Optical Potential,” Phys. Rev. C 17, 835 (1978) (with N. Austern and M. Silver).
21. “Lorentz-Lorenz Effect and ρ^2 Terms in Pion-Nucleus Scattering,” Phys. Rev. C 18, 579 (1978).
22. “ ρ -Meson Intermediate States in π -Nucleon Scattering,” Phys. Rev. C 18, 914 (1978).
23. “Intermediate Rho Mesons in Pi-Nuclear Scattering,” Z. Physik A287, 387 (1978).
24. “Charge-Symmetry Tests in Neutron-Proton Elastic Scattering,” Nucl. Phys. A305, 342 (1978) (with C.Y. Cheung and E.M. Henley).
25. “Field-Theory Treatment of the $pp \rightarrow d\pi^+$ Reaction,” Nucl. Phys. A306, 447 (1978) (with M.A. Alberg, E.M. Henley, and J.F. Walker).

Publications—Refereed Journals **red:** ≥ 50 **iNSPIRE Citations** **blue:** ≥ 100 **iNSPIRE citations** **Gerald A. Miller**

26. “Effects of Odd-Parity Components of the Deuteron on Inelastic Polarized Electron-Deuteron Scattering,” *Phys. Rev. D* 19, 3236 (1979) (with J.N. Ng).
27. “Charge Symmetry Test in the Reaction $np \rightarrow d\pi^0$,” *Phys. Rev. Lett.* 43, 1215 (1979) (with C.Y. Cheung and E.M. Henley).
28. “Hopes and Realities for the (p, π) Reaction,” *Ann. Rev. Nucl. Part. Sci.* 1979 29, 121 (1979) (with D.F. Measday).
29. “Meson Theory of Charge-Dependent Nuclear Forces,” in *Mesons in Nuclei*, Ed. by M. Rho and D. Wilkinson, North-Holland, Amsterdam, p. 405 (1979) (with E.M. Henley).
30. “Pion-Nucleon Scattering in the Brown-Rho Bag Model,” *Phys. Lett.* B91, 192 (1980) (with A.W. Thomas and S. Th  berge).
31. “Low Energy Absorption of Pions on Nuclei and the Real ρ^2 Potential,” *Phys. Rev. C* 21, 2519 (1980) (with J.V. Noble).
32. “Evidence for Non-linear Meson Dynamics from Low Energy Pion-Nucleus Scattering,” *Phys. Rev. C* 22, 1211 (1980) (with J.V. Noble).
33. “Can the Lee Model be Used in Testing Theories of Pion-Nucleus Scattering?,” *Nucl. Phys.* A340, 367 (1980).
34. “Relativistic Kinematics for Elastic Pion-Nucleus Scattering,” *Phys. Rev. C* 21, 1472 (1980) (with D.J. Ernst).
35. “Pion-Nucleus Charge Exchange Reactions at Low Energies,” *Phys. Rev. C* 22, 2639 (1980) (with J.E. Spencer). 36. “Charge Symmetry Breaking in the np System,” *Nucl. Phys.* A348, 365 (1980) (with C.Y. Cheung and E.M. Henley).
37. “Interpretation of Some Low Equation Results,” *Annals of Physics (N.Y.)* 129, 131 (1980) (with E.M. Henley).
38. “Deuteron Photodisintegration: Impulse Approximation and Gauge Invariance,” *Phys. Rev. C* 22, 968 (1980) (with W-Y.P. Hwang).
39. “Pionic Corrections in the MIT Bag Model, I: The (3,3) Resonance,” *Phys. Rev. D* 22, 2838 (1980) (with S. Th  berge and A.W. Thomas).
40. “Pion-Nucleus Scattering and Systematics of the Delta-Nucleus Interaction,” *Phys. Lett.* 103B, 397 (1981) (with R.A. Freedman and E.M. Henley).
41. “Pionic Corrections in the MIT Bag Model,” *Comments on Nuclear and Particle Physics* 10, 101 (1981) (with S. Th  berge and A.W. Thomas).
42. “The Cloudy Bag Model of the Nucleon,” *Phys. Rev. D* 24, 216 (1981) (with S. Th  berge and A.W. Thomas).
43. “Energy Independent Optical Models,” *Phys. Rev. Lett.* 46, 1545 C (1981) (with J.T. Londergan).
44. “Elastic Pion Double Charge Exchange Reactions,” *Phys. Rev. C* 24, 221 (1981).
45. “Parity Violation in Electron-Deuteron Interactions II: Break-up Channels,” *Annals of Physics* 137, 378 (1981) (with W-Y. P. Hwang and E.M. Henley).
46. “Baryon Momentum Effects in Resonance Dominated Strangeness Changing Nuclear Reactions,” *Phys. Lett.* B106, 358 (1981) (with G.E. Walker).
47. “The Cloudy Bag Model IV: Higher Order Corrections to the Nucleon Electromagnetic Properties,” *Can. J. Phys.* 60, 59 (1982) (with S. Th  berge and A.W. Thomas).

Publications—Refereed Journals red: ≥ 50 iNSPIRE Citations blue: ≥ 100 iNSPIRE citations
Gerald A. Miller

48. “Properties of Energy Independent Optical Models,” *Phys. Rev. C* 25, 46 (1982) (with J.T. Londergan).
49. “Isobar Dynamics and Pion-Nucleus Elastic Scattering,” *Nucl. Phys.* A389, 457 (1982) (with R.A. Freedman and E.M. Henley).
50. “Model Dependence of the 1S_0 pp Scattering Length,” *Phys. Rev. C* 27, 917 (1983) (with M. Rahman).
51. “Pion-Nucleus Charge Exchange Reactions with Isobar Dynamics,” *Phys. Rev. C* 27, 277 (1983) (with R.A. Freedman, E.M. Henley and P. Hoodbhoy).
52. “A Relation Between Coherent π^0 Photoproduction and π -Nucleus Elastic Scattering,” *Phys. Rev. C* 28, 848 (1983) (with P. Hoodbhoy).
53. “Quark Contributions to the $pp \rightleftharpoons d\pi^+$ Reaction,” *Phys. Rev. C* 27, 1669 (1983) (with L.S. Kisslinger).
54. “Weak Nuclear Interactions in a Hybrid Baryon-Quark Model: p - p Asymmetry,” *Phys. Rev. C* 27, 1602 (1983) (with L.S. Kisslinger).
55. “A Theory for a Hybrid Model for the Nucleon-Nucleon System,” *Phys. Rev. C* 28, 1277 (1983) (with E.M. Henley and L.S. Kisslinger).
56. “Fermi Integration in the Pion-Nucleus Optical Potential,” *Phys. Rev. C* 27, 2733 (1983) (with D.J. Ernst).
57. “Chiral Symmetry Breaking Length Scale and g_A in Chiral Bag Models,” *Phys. Lett.* 121B, 232 (1983) (with S.A. Chin).
58. “The Axial Form Factor of the Nucleon and the Pion-Nucleon Vertex Function,” *Phys. Lett.* 124B, 109 (1983) (with P.A.M. Guichon and A.W. Thomas).
59. “Charge Dependence of Nuclear Forces,” *Phys. Lett.* 132B, 32 (1983) (with T.E.O. Ericson).
60. “The KSRF Relation and Strong Mesonic Couplings in the Cloudy Bag Model,” *Phys. Lett.* 130B, 98 (1983) (with P. Singer).
61. “Convergent Self-energy in the Cloudy Bag Model,” *Phys. Lett.* 132B, 173 (1983) (with G. Crawford).
62. “Quarks and the Deuteron Asymptotic D-state,” *Phys. Lett.* 134B, 15 (1983) (with P.A.M. Guichon).
63. “Building the Nucleus from Quarks: The Cloudy Bag Model and the Quark Description of the Nucleon-Nucleon Wave Function,” *International Review of Nuclear Physics*, T.T.S. Kuo and E. Osnes eds., *Quarks and Nuclei*, Vol. 1, W. Weise, ed., World Scientific (1984).
64. “Determination of the Effective Axial Coupling Constant,” *Phys. Rev. Lett.* 52, 1838 (1984) (with M.C. Birse).
65. “Nucleon Magnetic Moments in Nuclei and Quark Degrees of Freedom,” *Phys. Lett.* 143B, 326 (1984) (with G. Karl and J. Rafelski).
66. “Disentangling Explanations of Deep-inelastic Lepton-Nucleus Scattering by Lepton-Pair Production,” *Phys. Rev. Lett.* 53, 2532 (1984) (with P. Bickerstaff and M. Birse).
67. “Six-quark Cluster Components of Nuclear Wave Functions with the Pion-nucleus Double Charge Exchange Reaction,” *Phys. Rev. Lett.* 53, 2008 (1984).

Publications—Refereed Journals red: ≥ 50 iNSPIRE Citations blue: ≥ 100 iNSPIRE citations
Gerald A. Miller

68. “M1 Radiative Transitions of Mesons in the Cloudy Bag Model,” Phys. Lett. [B154](#), 75 (1985) (with P. Singer).
69. “Six Quark Cluster Effects and Binding Energy Differences Between Mirror Nuclei,” Phys. Rev. C [31](#), 602 (1985) (with V. Koch).
70. “Dynamical Rescaling and the Size of the Pion,” Phys. Lett. [B161](#), 393 (1985) (with R.P. Bickerstaff and M.C. Birse).
71. “Radiative Meson Decay in the Cloudy Bag Model,” Phys. Rev. D [33](#), 141 (1986) (with P. Singer).
72. “Current Algebra and the Cloudy Bag Model,” Phys. Rev. D [33](#), 817 (1986) (with M.A. Morgan and A.W. Thomas).
73. “Pion Nucleus Double Charge Exchange: The Modern Era,” Comments on Nuclear and Particle Physics [15](#), 269 (1986) (with H.W. Baer).
74. “Partons in Nuclei,” Phys. Rev. D [33](#), 3228 (1986) (with R.P. Bickerstaff and M.C. Birse).
75. “Origins of the EMC Effect,” Phys. Lett. [B168](#), 409 (1986). (with R.P. Bickerstaff).
76. “ Q^2 -Dependence of the EMC Effect,” Phys. Rev. D [34](#), 2890 (1986) (with R.P. Bickerstaff).
77. “Charge Symmetry Breaking in Neutron-Proton Elastic Scattering,” Phys. Rev. Lett. [56](#), 2567 (1986) (with A.W. Thomas and A.G. Williams).
78. “Six-quark Bags and the Charge Density Difference Between Pb and Tl,” Phys. Lett. [B174](#), 229 (1986).
79. “The Neutron Electric Dipole Moment in the Cloudy Bag Model,” Phys. Lett. [B179](#), 379 (1986) (with M.A. Morgan).
80. “Color and the Isospin Violating Nucleon-nucleon Force,” Phys. Rev. C [34](#), 1779 (1986) (with K. Bräuer and E.M. Henley).
81. “Pion Absorption in the Diproton,” Phys. Rev. Lett. [57](#), 2135 (1986)(with D. Ashery, E. Piasezky, M.A. Moinester, A. Gal).
82. “Examining the P -Matrix,” Phys. Rev. D [35](#), 1707 (1986) (with G.A. Crawford).
83. “Quarks and the Saturation Properties of Nuclear Matter,” Phys. Rev. C [36](#), 1956 (1987) (with G.A. Crawford).
84. “Six Quark Clusters and the Energy Dependence of the $(\pi^+\pi^-)$ Reaction,” Phys. Rev. C (Rapid Communications) [35](#), 377 (1987).
85. Comment on “Charge-Dependence of the Nucleon-Nucleon Interaction due to the Pion Mass Difference,” Phys. Rev. C [36](#), 2707 (1987) (with T.E.O. Ericson).
86. “Deep Inelastic Structure Functions in the MIT Bag,” Phys. Rev. D [36](#), 1344 (1987) (with C.J. Benesh).
87. “Charge-Symmetry Breaking in Neutron-Proton Elastic Scattering,” Phys. Rev. C [36](#), 1956 (1987) (with A.G. Williams and A.W. Thomas).
88. “Quark Model of the $\pi^-pp \rightarrow np$ Reaction,” Phys. Rev. C [36](#), 2450 (1987) (with A. Gal).
89. “Radiative and Pionic Decays of the D^* Mesons and the Magnetic Moment of the Charmed Quark,” Phys. Rev. D [37](#), 2564 (1988) (with P. Singer).
90. “Nucleonic Contribution to Lepton-Nucleus Deep Inelastic Scattering,” Phys. Lett. [B200](#), 351 (1988) (with H. Jung).

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91. “Flux Tube Rearrangement and Meson-Meson Scattering,” *Phys. Rev. D* 37, 2431 (1988).
92. “Deep Inelastic Scattering in a Modified Bag Model,” *Phys. Rev. D* 38, 48 (1988) (with C.J. Benesh).
93. “Deuteron Photo-Disintegration,” *Phys. Rev. C* 38, 1584 (1988) (with S. Ying and E.M. Henley).
94. “Valence Quark Distributions in the Soliton Bag Model,” *Phys. Lett.* B215, 381 (1988) (with C.J. Benesh).
95. “Potential Model Calculations of Parity-Violation in Proton-Proton Scattering,” *Phys. Rev. C* 39, 1951 (1989) (with D. Driscoll).
96. “Towards a QCD Derivation of the Nucleus,” *Phys. Rev. C* 39, 1563 (1989).
97. “The Spin Structure of the Proton,” *Phys. Lett.* B222, 476 (1989) (with C.J. Benesh).
98. “ $B^* \rightarrow B\gamma$ Decays in a Bag Model for Heavy-Light Quark States,” *Phys. Rev. D* 39, 825 (1989) (with P. Singer).
99. “Relativistic Pion-Ring Series for Nuclear Matter,” *Phys. Rev. Lett.* 62, 2357 (1989) (with H. Jung and F. Beck).
100. “Relativistic and Strong-Distortion Effects in Proton-Proton Parity Violation,” *Phys. Rev. C* 40, 2159 (1989) (with D. Driscoll).
101. “ Q^2 Dependence of the EMC Effect,” *Phys. Rev. C* 41, 362 (1990).
102. “Pionic Contributions to Deep Inelastic Nuclear Structure Functions,” *Phys. Rev. C* 41, 659 (1990) (with H. Jung).
103. “Charge Symmetry, Quarks and Mesons,” *Phys. Rpts.* 194, 1-116 (1990) (with B.M.K. Nefkens and I. Slaus).
104. “On Color Transparency,” *Phys. Lett.* B236, 209 (1990) (with B.K. Jennings).
105. “A New Look at CP Violation,” *Phys. Rev. D* 41, 2817 (1990) (with M.J. Iqbal).
106. “New Directions in Theory,” *Nucl. Phys.* A508, 561c (1990).
107. “The Proton Charge Form Factor and the Neutron-Proton Mass Difference,” *Festschrift for Torleif Ericson*, *Nucl. Phys.* A518, 207 (1990) (with E.M. Henley).
108. “Charge Symmetry Breaking,” *Festschrift for Torleif Ericson*, *Nucl. Phys.* A518, 345 (1990).
109. “Excess of \bar{D} over \bar{U} in the Proton Sea,” *Phys. Lett.* B251, 453 (1990) (with E.M. Henley).
110. “Comment on Quark-Meson Coupling Model for Baryon Wave Functions and Properties,” *Phys. Rev. D* 43, 288 (1991) (with A.W. Thomas).
111. “Nucleon Self-energy in Relativistic Nuclear Matter with Pion Ring Series,” *Phys. Rev. C* 43, 1958 (1991) (with H. Jung).
112. “Charge Distributions of Hyperons,” *Phys. Lett.* B255, 11 (1991) (with J. Kunz and P. Mulders).
113. “The Energy Dependence of Color Transparency,” *Phys. Rev. D* 44, 692 (1991) (with B.K. Jennings).
114. “Nucleon Binding Corrections to Lepton-nucleus Deep Inelastic Scattering: Use of a Realistic Spectral Function,” *Phys. Rev.* C44, 866 (1991) (with A.E.L. Dieperink).
115. “Charge-Symmetry of the Strong Interaction is the Light-flavor Symmetry of QCD,” *Comm. Nucl. & Part. Phys.* 20, 221 (1991) (with I. Slaus and B.M.K. Nefkens).

Publications–Refereed Journals red: ≥ 50 iNSPIRE Citations blue: ≥ 100 iNSPIRE citations
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I have given about 450 talks at physics meetings and workshops. Many of these have been published in various proceedings. A list is available on request.