CURRICULUM VITAE

Name: Robert C. Morrison Academic Rank: Professor

Date of Birth: June 10, 1938 Place of Birth: Goodland, Kansas

Education:

Degree	Year	Institution
B.S.(Cum Laude)	1964	College of Emporia
Ph.D.	1969	University of Nebraska

Ph.D. Dissertation:
A Calculation of the Hydrogen Molecule Using Projected Hartree Product Wavefunctions

Principal Fields of Interest:
Quantum theory of atoms and molecules with particular interest in the one-particle nature of many-electron systems; Density matrices and density functional theory; Photoionization; Research interests have also included the development of microcomputer-based aids for disabled scientists.

Hobbies

- Learning to play classical guitar.
- Ironman Racing. On October 23, 1999 I swam 2.4 miles in the Pacific Ocean, rode a bicycle 112 miles through the hot, windy lava fields of Hawaii, then ran 26.2 miles. I'm going to brag the rest of my life.

Teaching and Professional Experience:

Title	Location	Year
Postdoctoral Fellow	University of Georgia	1968-70
Systems Analyst	East Carolina University	1970-72
Assistant Professor	East Carolina University	1972-77
Associate Professor	East Carolina University	1977-81
Professor	East Carolina University	1981-
Chair of the Faculty	East Carolina University	2000-2003

Society Memberships (Professional):

Organization	Offices Held
American Chemical Society	Chairman of ENCACS Section 1976

Past memberships in
American Association of University Professors
American Physical Society
American Association for the Advancement of Science
Sigma Xi

Honorary Societies:
Athena Society (College of Emporia)

A Project to Develop Microcomputer-Based Aids for Disabled Scientists
From 1978-1988 David Lunney and I co-directed a team at ECU to design and build a prototype of a talking microcomputer as an educational tool for blind scientists in chemistry laboratories. The prototype had three microprocessors with our own brand of interprocessor communication. At one time we had about 15 members in the group including students, research associates, and externally funded support staff. We organized and established the Science Institute for the Disabled at ECU to extend educational opportunities for disabled students in secondary schools in eastern NC. The Institute was directed by Professor David Lunney until he retired in the 1990's. We both received the Pitt County Distinguished Service Award in 1988 from the Governor's Advocacy Council for Persons with Disabilities.

The project was highlighted as the cover story "The Sound of Data" in Science News in June, 1985. It was also covered in Chemical and Engineering News, the Toronto Globe and Mail (a Canadian newspaper), the New Scientist (a British publication), the Christian Science Monitor, and a number of newspapers around the country. A radio station in Oregon played our musical tunes of the infrared spectra of acetic acid, acetone, ethanol, and other compounds, and called us for several years asking for new tunes.

Teaching

- Coordinated Physical Chemistry Laboratory for 20-25 years, developing many new experiments, including computer-instrument interfacing.
- Participated in the development of a course Introduction to Instrument-Computer Interfacing that was offered jointly by the Department of Physics.
- Developed and taught Environmental Chemistry for non-science majors and Chemistry for the Consumer for non-science majors.
- Taught the undergraduate courses General Chemistry and Qualitative Analysis I and II, Physical Chemistry I and II, Introduction to Physical Chemistry, Introductory Chemistry, Organic and Biochemistry for Nurses.
- Provided leadership for the development of computer-based experiments in General Chemistry II Laboratory.
- Developed and taught graduate courses in Theoretical Chemistry, and Molecular Spectroscopy.
- Participated in the development and teaching of a graduate course on Computational Methods in Chemistry.
- Included many undergraduate students in research projects, with quite a few as co-authors of oral and poster presentations at scientific meetings and of journal articles.
- Served on a Greenville City Schools Task Force for Improvement of Mathematics in Programs for Primary and Secondary Schools, 1982-83.
- Co-directed with David Lunney a National Science Foundation Research Experiences for Undergraduates program for disabled science students, summer, 1988. (Students came from areas ranging from Florida to Chicago.)

Professional Service

- Chair of the Eastern North Carolina Section of the American Chemical Society, 1976.
- External peer reviewer for faculty members at other institutions.
- Proposal reviewer for the American Chemical Society Petroleum Research Fund.
- Referee for scientific articles in various journals.
- Invited session chair at scientific meetings – Thirty Years of Density Functional Theory, Concepts and Applications, Cracow, Poland, June 13-16, 1994; The Symposium on Density Functional Theory and Applications, June 3-7, 1997. Duke University, Durham, North Carolina; Sanibel Symposium on quantum theory of atoms, molecules, and condensed phases at St. Augustine, Florida, February of 2002; and the National American Chemical Society meeting in Atlanta, Georgia, March, 2006.
- Part of a four-member team of ECU chemistry faculty that computer-automated a margarine-making process for a margarine factory in Cincinnati, Ohio, 1974. This was an early use of first-generation microprocessors coupled with a Hewlett-Packard minicomputer.

University Service Since 1994

- Various departmental committees including Personnel, Tenure, Promotion, and ad hoc committees.

- Hearing Committee 1994-1996, Chair 1994-1995.
- Libraries Committee 1994-1996, Secretary 1994-1996.
- Chemistry Department Executive Committee 1994-1998, 2004-2006, Chair 1994-1996.
- University Committee on Intellectual Property/Patents 1995-2000.
- Faculty Grievance Committee 1997-2000, 2003-2005, Secretary 2000, Grievance Hearing Chair, 2004.
- Faculty Senate 1997-2005.
- Graduate Council, 1997-1998, led the reorganization of the Council.
- Graduate Council Faculty Appeals Committee, 1997-1998, Chair.
- Graduate Council Policies Committee, 1997-1998, Chair.
- Education Planning and Policies Committee, 1997-1998.
- Faculty Senate Agenda Committee, 1998-2004.
- Committee on Committees, 1998-2003.
- Faculty Senate Parliamentarian, 1998-1999.
- University Chemical Safety Committee, 1998-2000.
- Chemistry Department Personnel Committee Chair 1999-2000, 2003-2005.
- Vice-Chair of the Faculty, 1999-2000, began the reorganization of the Faculty Senate Committee structure.
- Admission and Recruitment Committee, 1999-2000.
- Research/Creative Activity Policies Committee, 1999-2000.
- Faculty Information Technology Committee, 1999-2000.
- Distance Education and Extension Advisory Board (DEEAB), 1999-2000.
- Information Resources Coordinating Council (IRCC), 1999-2003.
- Faculty Assembly Delegate, 1999-2005.
- UNC Committee on Non-Tenure-Track Faculty, 2000-2001.
- Chair of the Faculty, 2000-2003.
- UNC Faculty Assembly Academic Freedom Committee, Chair, 2000-2001.
- University Budget Reduction Committee, 2000-2001.
- Chancellor Search Committee, 2000-2001.
- Provost Search Committee, 2001-2002, 2004-2005.
- UNC Faculty Assembly Program and Planning Committee, 2001-2003,2004-2005.
- ECU Commission on Scholarship, Co-Chair, 2002-2003.
- Chemistry Chair Search Committee, Secretary, 2003-2005.
- ECU Strategic Planning Committee, 2003-2004.
- Faculty Assembly Task Force on Athletics, Co-Chair, 2003-2004.
- Faculty Governance Committee, 2004-2006, Co-Secretary, 2005-2006.
- Fixed-Term Faculty Committee, Chair, 2004-2005.
- University Athletics Committee, 2004-2005.
- ECU's representative to the Coalition on Intercollegiate Athletics, an organization advocating reform in intercollegiate athletics, 2004-2005.
- Chancellor Installation Committee, 2004-2005.
- Faculty Marshal, 2004-2006.
- Author of a chapter on Faculty Organization in a book on ECU History to be published in 2006.

Grants and Contracts Funded:

1. "A Universal Laboratory Training and Research Aid: Microcomputer-Assisted Instruction for Visually Handicapped Chemistry Students", D. Lunney (Director), R. Morrison (Co-Director), Bureau of Education for the Handicapped,Sept. 1978-Aug. 1980
   $110,770

2. "Microcomputer Assisted Laboratory Instruction for College Chemistry Students Who Have Upper Limb Disabilities: A Voice Operated Laboratory Training Aid", R. Morrison (Director), D. Lunney (Co-Director), Bureau of Education for the Handicapped,Sept. 1980-Aug. 1982
   $165,163

3. "Microcomputer Assisted Laboratory Instruction for College Chemistry Students: Augmentation and Further Development of the Universal Laboratory Training and Research Aid",D.Lunney(Director),R. Morrison (Co-Director), Bureau of Education for the Handicapped,Sept. 1980-Aug.1982)
   $246,829

4. "Use of Complex Audio Signals to Present Multivariate Data to Visually Handicapped Students", D.Lunney (Director),R.Morrison (Co-Director), Bureau of Education for the Handicapped,Sept. 1981-Aug.1983
   $235,275

5. "Technology Compensatory Activities: A Hardware Update of the Universal Laboratory Training and Research Aid",D. Lunney (Co-Director), R. Morrison (Co-Director), Department of Education special education projects, Oct. 1983 - Mar. 1985
   $207,777

6. "Auditory Presentation of Chemical Data", D. Lunney (Director), R. Morrison (Co-Director), Wellcome Foundation, June 1985- August-1985
   $15,000

7. "Development and Demonstration of a Prototype Laboratory Computer with Auditory Outputs for Visually Impaired Science Students", D. Lunney (Co-Director), R. Morrison (Co-Director), U. S. Department of Education, Oct. 1986-Dec. 1987
   $49,992

8. "Research Experiences of Undergraduates Site at East Carolina University for Disabled Students", D. Lunney (PI), R. Morrison (Co-PI), National Science Foundation, Sept. 1987-Aug. 1988
   $40,000

9. "Functional Group Analysis of Infrared Spectra Using Auditory Pattern Recognition", D. Lunney (PI), R. Morrison (Co-PI), National Science Foundation Sept. 1988- Feb. 1991
   $80,000

10. "Studies of Reduced Density Matrices", R. Morrison (PI), National Science Foundation, May 1993 - April, 1996
    $154,200

Pending Proposal

"Chemical Applications of Ensemble Density Functional Theory", R. Morrison (PI) and L. Bartolotti (Co-PI), National Science Foundation.
$499,000

Theses(MS) Directed:

"The Effect of Continuum Orbitals on Theoretical Photoionization Cross Sections", Charles Finch, 1978.

"Independence for the Visually Impaired in the Chemistry Laboratory: Microcomputer Assisted Infrared Spectrophotometry and Gas Chromatography Using Speech and Variable Audio Frequency Outputs." M. Cetera 1982. (Codirector with D. Lunney),
"The Use of Artificial Neural Networks for the Functional Group Identification of Vapor-Phase Infrared Spectra" Rosa McMillan 1992 (Codirector with D. Lunney).

"Studies of Chemical Bonding for Homonuclear Diatomic Molecules Using Dyson Orbitals", Wei Tong, 1996.

Partial List of Presentations at Scientific Meetings (* indicates undergraduate contributor)
"A Titration Experiment for Blind Chemistry Students Using a Talking Microcomputer", R. J. Terry*, R. C. Morrison, D. Lunney, and A. D. Salt, National American Chemical Society Meeting, Atlanta, Georgia, March, 1981. (student presentation)

"Gas Chromatography Experiment for Visually Impaired Students", M. M. Cetera, R. C. Morrison, D. C. Sowell*, and D. Lunney, National American Chemical Society Meeting, Atlanta, Georgia, March, 1981. (student presentation)

"Use of a Microcartrige Tape for Data and Program Storage on a Talking Microcomputer System for Visually Handicapped", D. Sowell*, D. Lunney, R. C. Morrison, and G. Locklair*, National American Chemical Society Meeting, Atlanta, Georgia, March, 1981. (student presentation)

"The Universal Laboratory Training and Research Aid (ULTRA)", D. Lunney and R. C. Morrison, Fourth Annual Conference on Rehabilitation Engineering, Washington, D.C. August, 1981.

"Voice Operated Titration for Students with Upper Limb Disabilities", R. C. Morrison, D. Lunney, R. Terry*, and J. Hassell, National Meeting of the American Chemical Society, Las Vegas, Nevada, March, 1982.

"A Portable Laboratory Microcomputer with Speech Output for Visually Impaired Science Students", D. Lunney, R. C. Morrison, A. Salt, and R. Mills, National Meeting of the American Chemical Society, Las Vegas, Nevada, March, 1982.

"High Technology Aids for the Handicapped in the Science Laboratory", D. Lunney, and R. C. Morrison, American Association for the Advancement of Science workshop, Rochester, New York, July 1982.

"Microcomputer-Based Laboratory Aid for Visually Impaired College Chemistry Students", D. Lunney and R. C. Morrison, American Council of the Blind, Atlanta, Georgia, July 1982 (invited talk).

"A Laboratory Data Collection Microcomputer for Handicapped Chemistry Students", R. C. Morrison and D. Lunney, 6th Annual Symposium of the Instructional Media Production Project for Severely Handicapped Students, March, 1983 (invited talk).

"A Transportable Talking STD-BUS Data Acquisition Computer for Visually Impaired Science Students: the Benefits of Modularity and Standardization", D. Lunney, R. C. Morrison, D. Sowell*, and R. T. Mills, International Chemical Congress of the Pacific Basin Societies, Honolulu, Hawaii, December, 1984.

"A Scheme for Converting Infrared Spectra to Recognizable Auditory Patterns", R. C. Morrison, D. Sowell*, and D. Lunney, International Congress of the Pacific Basin Societies, Honolulu, Hawaii, December, 1984.

"Demonstration of a Transportable Talking Data Acquisition Computer for Visually Impaired Science Students", D. Lunney and R. C. Morrison, Human Factors in Computing Systems, San Francisco, California, April 14-18, 1985.

"Panel: Communicating with Sound", - Invited Panelist, Human Factors in Computing Systems, San Francisco, California, April 14-18, 1985.

"Auditory Presentation of Chemical Data",D. Lunney and R. C. Morrison, 192nd American Chemical Society National Meeting, Anaheim CA, Sept. 7-12, 1986.

"Using High Technology to Develop Aids for Visually Impaired Scientists", R. C. Morrison and D. Lunney, 193rd American Chemical Society Meeting, Denver, CO, April 5-10, 1987. (invited presentation).

"Approximate Two-Matrices which Satisfy the Cusp Condition", R. C. Morrison, 11th Canadian Symposium on Theoretical Chemistry", McGill University, Montreal, Canada August 2-7, 1992.

"The extended Koopmans' theorem: an orbital model for ionization that is exact", R. C. Morrison, Symposium honoring the retirement of Professor Gordon A. Gallup, University of Nebraska, Lincoln, Nebraska, May 14, 1993. (invited lecture)

"Exploring the limits of accuracy of the extended Koopmans' theorem", R. C. Morrison, Sanibel Symposium, Ponte Vedra Beach, Florida, February 12-10, 1994.

"Computational Examination of the long-range behavior of generalized overlap amplitudes", R. C. Morrison, J. Mizell, Jr.*, and O. W. Day, Jr., Thirty Years of Density Functional Theory: Concepts and Applications, Cracow, Poland, June 13-16, 1994.

"Computational Examination of the long-range behavior of generalized overlap amplitudes", R. C. Morrison, J. Mizell, Jr.*, and O. W. Day, Jr. 8th International Congress of Quantum Chemistry, Prague, Czech Republic, June 19-23, 1994.

"Chemical bonding in H_2" R. C. Morrison, W. Tong, and O. W. Day, Jr., Southeastern Theoretical Chemistry Association, New Orleans, Louisiana, May, 1995.

"Generalized Overlap Amplitudes and Chemical Bonding in C_2", R. C. Morrison, W. Tong, and O. W. Day, Jr., The Thirty-Sixth Sanibel Symposium, St. Augustine, Florida, February 24 - March 2, 1996.

"Analysis of Density Functionals and Their Density Tails", P. W. Ayers, O. W. Day, Jr., and R. C. Morrison, Symposium on Density Functional Theory and Applications, June 3 - June 7, 1997. Duke University, Durham, North Carolina.

"The One-Particle Nature of Many-Electron Systems", R. C. Morrison, The 50th Southeastern meeting of the American Chemical Society, Research Triangle Park, November 4-7, 1998.

"The noninteracting v-representability problem in the beryllium isoelectronic series", R. C. Morrison, Sanibel Symposium, St. Augustine, Florida, February, 2002.

Scientific Papers (* indicates undergraduate contributor)

1. "Projected Hartree Product Wavefunctions. III. Comparison with the CI Method for H_2." R.C. Morrison and G.A. Gallup, *J. Chem. Phys.* **50**, 1214 (1969).

2. "On the Interpretative Aspects of Second Order Reduced Density Matrices." D.W. Smith, E.G. Larson, and R.C. Morrison, *Int. J. Quantum Chem.* **S3**, 683 (l969).

3. "Unusual Chemically Induced Nuclear Spin Polarization in Reactions of Sodium Naphthalene with Alkyl Halides." J.F. Garst, R.H. Cox, J.T. Barbas, R.D. Roberts, J.I. Morris, and R.C. Morrison, *J. Amer. Chem. Soc.* **92**, 567l (1970).

4. "Chemically Induced Dynamic Nuclear Polarization. General Solutions of CKO Model. Applicability to Reactions Run in Low Magnetic Fields." J.I. Morris, R.C. Morrison, D.W. Smith, J.F. Garst, *J. Amer. Chem. Soc.* **94**, 2406 (1972).

5. "Density Matrix Study of Atomic Ground and Excited States. III. General Energy Analysis of an Accurate Beryllium Ground State Wavefunction." P.L. Olympia, Jr., R.C. Morrison, and D.W. Smith, *Phys. Rev.* **6l**, 1767 (l972).

6. "Partitioning Schemes for the 2-Matrix. The Pair Density." R.C. Morrison, D.W. Smith, and E.G. Larson, *Inter. J. Quantum Chem.*, **7**, 837 (l973).

7. "Extension of Koopman's Theorem. II. Accurate Ionization Energies From Correlated Wavefunctions for Closed-Shell Atoms." O.W. Day, D.W. Smith and R.C. Morrison, *J. Chem. Phys.* **62**, 115 (l975).

8. "An Extension of Koopman's Theorem. III. Ionization Energies of The Open-Shell Atoms Li and B." R.C. Morrison, O.W. Day, and D.W. Smith, *Inter. J. Quantum Chem.* **S9**, 229 (l975).

9. "Extension of Koopman's Theorem. IV. Ionization Potentials from Correlated Wavefunctions for Molecular Flourine." J.C. Ellenbogen, O.W. Day, D.W. Smith, and R.C. Morrison, *J. Chem. Phys.* **66**, 4795 (1977).

l0. "One-Particle Ionization Energies from Correlated Wavefunctions: Applications to Be." R.C. Morrison, *Chem. Phys. Letters* **62**, 131 (1979).

11. "A Calculator Program for a Talking Microcomputer Designed to Aid Blind Students in Chemistry Laboratories", R. C. Morrison, D. Lunney, M. M. Cetera, R.V. Hartness*, G. Locklair*, R. B. Ransom*, and D. Sowell*, in *Personal Computers in Chemistry*, P. Lykos, ed., pp. 164-176, Wiley-Interscience, l981.

12. "High Technology Laboratory Aids for Visually Handicapped Chemistry Students", D. Lunney and R.C. Morrison, *J. Chem. Educ.*, **58**, 228 (1981).

13. "Talking and Voice Entry Computers for the Chemistry Lab", R. C. Morrison and D. Lunney, *Proceedings of the Exposition on Technology for the Handicapped*, NC State University, 1981 (extended abstract of an oral presentation).

14. "A Laboratory Data Collection Microcomputer for Handicapped Science Students", David Lunney and Robert C. Morrison, *Journal of Special Education Technology*, Vol. 5, No. 4, p. 51, 1982 (extended abstract of an oral presentation).

15. "A Microcomputer-based Laboratory Aid for Visually Impaired Students", David Lunney, Robert C. Morrison, et.al., *IEEE Micro*, **3**(4), 19 (1983). (also published in Japanese in *Nikkei Electronics* **221**, 2-13 (1984)).

16. "Talking and Voice Entry Computers for the Chemistry Lab", D. Lunney and R. C. Morrison, in *Technology for Independent Living II*, M. Redden and V. Stern, ed., pp. 105-106, American Association for the Advancement of Science, 1983 (extended abstract of an oral presentation).

17. "The Microcomputer as a Laboratory Aid for Visually Impaired Students", Robert C. Morrison and David Lunney, *Journal of Visual Impairment and Blindness*, **78**, 418-425 (1984).

18. "A Voice Operated Microcomputer-Based Laboratory Data Acquisition System to Aid Handicapped Students in Chemistry Laboratories", Robert C. Morrison, David Lunney, Ronald J. Terry*, John Hassell, and Gary Boswood*, *Journal of Chemical Information and Computer Sciences*, **24**, 271-275 (1984).

19. "Communicating with Sound", William Buxton, Sara Bly, Steven Frysinger, David Lunney, Douglass Mansur, Joseph Mezrich, Robert C. Morrison, *SIGCHI Bulletin* Special Issue on the CHI '85 Conference Proceedings of Human Factors in Computing Systems, 1985, 115-119 (an extended abstract of a panel discussion).

20. "The Density and Density Matrix from Optimized Linearly Independent Product Basis Functions for Be", Robert C. Morrison, *Inter. J. Quantum Chem.* **S22**, 43 (1988).

21. "An Explicit Density Matrix Functional of the (N-1)-Particle System when the N-Particle System is Known", R. C. Morrison *Inter. J. Quantum Chem.*, **S23**, 583 (1989).

22. "Auditory Presentation of Experimental Data", D. Lunney and R. C. Morrison, in *Proceedings of the SPIE*, (*Extracting Meaning from Complex Data: Processing, Display, Interaction*), **1259**, E. J. Farrell, ed., pp. 140-146 (1990).

23. "Approximate Density Matrices and Wigner Distribution Functions from Density, Kinetic Energy Density, and Idempotency Constraints", R. C. Morrison, W. Yang, R. G. Parr, and C. Lee, *Inter. J. Quantum Chem.*, **38**, 819 (1990).

24. "Approximate Density Matrices and Husimi Functions Using the Maximum Entropy Formulation with Constraints", R. C. Morrison and R. G. Parr, *Inter. J. Quantum Chem.* **39**, 823 (1991).

25. "The Extended Koopmans' Theorem and its Exactness", R. C. Morrison, *J. Chem. Phys.* **96**, 3718 (1992).

26. "Extended Koopmans' theorem: approximate ionization energies from MCSCF wave functions", Robert C. Morrison and Guanghua Liu, *J. Comp. Chem.* **13**, 1004 (1992).

27. "The Question of the Completeness of the Occupied Natural Orbitals for Atoms and Molecules", R. C. Morrison, Z. Zhou, and R. G. Parr, *Theor. Chim. Acta* **86**, 3 (1993).

28. "The Non-N-Representability of the Colle-Salvetti Second-Order Reduced Density Matrix", R. C. Morrison, *Inter. J. Quantum Chem.* **46**, 583 (1993).

29. "Comment on 'The exactness of the extended Koopmans' theorem: A numerical study'", R. C. Morrison, *J. Chem. Phys.* **99**, 6221 (1993).

30. "Extended Koopmans' Theorem Ionization Potentials for Beryllium Atom Shake-Up Transitions", R. C. Morrison, *Inter. J. Quantum Chem.* **49**, 649 (1994).

31. "Examination of the Limits of Accuracy of the Extended Koopmans' Theorem Ionization Potentials into Excited states of Ions of LiH, He_2, and Li_2" R.C. Morrison, C. M. Dixon*, and J. R. Mizell, Jr.* *Inter. J. Quantum Chem. Symp* **28**, 309 (1994).

32. "From electron densities of Kohn-Sham kinetic energies, orbital energies, exchange potentials, and exchange-correlation energies", Q. Zhao, R. C. Morrison, and R. G. Parr, *Phys. Rev. A* **50**, 2138 (1994).

33. "Solution to the Kohn-Sham equations using reference densities from accurate, correlated wave functions for the neutral atoms helium through argon", R. C. Morrison and Q. Zhao, *Phys. Rev. A* **51,** March (1995).

34. "Generalized Overlap Amplitudes for the Lithium Atom", R. C. Morrison, J. R. Mizell, Jr.* and O. W. Day, Jr., *Inter. J. Quantum Chem.***57** 355(1996).

35. "Generalized overlap amplitudes using the Extended Koopmans' theorem for Be", R. C. Morrison and P. W. Ayers*, *J. Chem. Phys.* **103**, 6556 (1995).

36. "Chemical Bonding in the Hydrogen Molecule", R. C. Morrison, W. Tong and O. W. Day, Jr., *Inter. J. Quantum Chem.* **60**, 421-431 (1996).

37. "Employing homogeneity properties of density functionals to determine the total electronic energy", R. C. Morrison and R. G. Parr, *Phys. Rev.* A **53**, R2918-20 (1996).

38. "Analysis of Chemical Bonding in C_2 Using Dyson Orbitals", W. Tong, R. C. Morrison, and O. W. Day, Jr., *Inter. J. Quantum Chem. Symp.* **30**, 411-419 (1996).

39. "Calculating Electronic Energies from Kohn-Sham Effective Potentials", R. C. Morrison and R. G. Parr, in *Electronic Density Functional Theory: Recent Progress and New Directions*, ed. M. P. Das, G. Vignale, and J. F. Dobson, (Plenum Publishing Co., 1998), p. 125-131.

40. "Analysis of Density Functionals and Their Density Tails in H_2", P. W. Ayers, O. W. Day, Jr., and R. C. Morrison, *Inter. J. Quantum Chem* **69**, 541-550 (1998).

41. "Variational principles for describing chemical reactions: Condensed reactivity indices", P. W. Ayers, R. C. Morrison, and R. K. Roy, *J. Chem. Phys.* **116**, 8731 (2002).

42. "Electron correlation and noninteracting v-representability in density functional theory: The Be isoelectronic series", R. C. Morrison, *J. Chem. Phys.* **117**, 10506 (2002).

43. "Examination of the monotonic atomic density postulate", P. W. Ayers and R. C. Morrison, *Acta Physica et Chimica Debrecina* **34-35**, 197 (2002).

44. R. C. Morrison and L. J. Bartolotti, "Exchange-correlation potentials for high-electron-density ions in the Be isoelectronic series**",** *J. Chem. Phys.* **121**, 12151 (2004).

45. Paul W. Ayers, Robert C. Morrison, and Robert G. Parr, "Fermi-Amaldi model for exchange-correlation: atomic excitation energies from orbital energy differences", *Molecular Physics* **103**, 2061 (2005).