

Keith G. Calkins

Objective:

Facilitate the application of technology to research via my knowledge quest in mathematics and physics while teaching others.

Contact Information:

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Berrien Springs, Michigan 49103-1013

Education:

- Ph.D. 2005 University of Notre Dame (Physics)
Absolute Optical Frequencies Measurements of the Cesium D_1 Transitions and Their Effect on Alpha, the Fine-Structure Constant
- 2003 Andrews University (Educational Administration)
- MAT 2002 Andrews University (Secondary Education)
- M.S. 1996 University of Notre Dame (Physics)
- M.S. 1991 Andrews University (Interdisciplinary Studies, Math and Physics)
- M.S. 1982 Andrews University (Computer Information Science)
- B.S. 1981 Andrews University (Math (and in 1988 Physics, with honors))

Certification:

Michigan Professional Education Certificate for grades 6–12 Chemistry, Computer Science, Mathematics, and Physics. Expiration date: 06/30/2015. Advanced Placement syllabi for Calculus AB/BC and Statistics approved by the College Board.

References: available upon request.

Postscript: Last updated January 20, 2012.

More details regarding experience, research, awards, publications, and service are available in my *vitae* at: <http://www.andrews.edu/~calkins/profess/cvitae.pdf>

Experience:

1978–2011

Andrews University
Berrien Springs, MI
49104-0140

Associate Professor of Math & Science (2008–11) Coordinated and taught mathematics in the Berrien Co. Math & Science Center (public high school program for accelerated students 1993–2011). Supervised/advised students, teachers, workers; tracked budgets, calculators, and textbooks; coordinated competitions; developed curriculum. **Unranked faculty** (before 2008) computer programming, language short courses, maintenance, computer appl. in architecture, math ed, statistics, and guest lectures. **Assistant Director for Technical Support** (1983–1993) Dept. saved university several million dollars with in-house hardware/software maintenance/development. Also managed data comm. network, microcomputers, academic computing, resource security, and disaster recovery. **Systems Programmer & Hardware Engineer** (1978–1983) operating system and utilities maintenance and development, security, hardware installation, development, and maintenance for Xerox Sigma 5/6/7/9 computers and related peripherals.

1980–present

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610 N. Main St.
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and
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Consultant; Research; Contract: Artware (early 1980's), Telefile Computer Products (July 1984–Feb. 1988+), NASA/Lockheed (June 1987), Argonne National Labs (Fall 1988), Warner (April 1989), University of Notre Dame (1991–93, 2003–05), farming/forestry (1993–), Interlink (1993–98), BCISD/Berrien RESA (1993–2010); sawyering (2001–), College Board/ETS (2002–present), University of Rochester (Summer 2006), Lake Michigan College (2006–2009+), PESG (Feb.–March 2011+), Berrien Springs Virtual Academy (March 2011–), Marion Public Schools (March–July 2011), Ferris State University (Aug.–Nov. 2011+), EDUStaff LLC (Nov. 2011–), and PCMI/Willsub (Jan. 2012–).

Referreed Journal Articles:

“On mesh-based Ewald methods: Optimal parameters for two differential schemes.” Harry A. Stern and Keith G. Calkins, *Journal of Chemical Physics*, **128**, June 6, 2008, 214106-1–8. PDF: http://www.andrews.edu/~calkins/uofr/jcp_128.pdf.

“Optical frequency measurements of $6s\ ^2S_{1/2} \rightarrow 6p\ ^2P_{1/2}$ transitions in ^{133}Cs and their impact on the fine-structure constant,” V. Gerginov, K. Calkins, C. E. Tanner, S. Diddams, A. Bartels, J. McFerran, L. Hollberg, *Physical Review A*, March 2006.

“Structure of Acidic Haloaluminate Melts: Neutron Diffraction and Quantum Calculations,” M. Blander, E. Bierwagen, K. Calkins, L. A. Curtiss, D. L. Price, M.-L. Saboungi, *Journal of Chemical Physics*, **97** (4), Aug. 15, 1992, 2733–41.

“Computer Assisted Analysis of Nuclear Magnetic Resonance Spectra,” K. Calkins, R. Daley, *Journal of Chemical Education*, May 1978, 322.