

March 15, 1999

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Physics Department
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Degrees

- 1990, Ph.D., Physics, University of Virginia, Charlottesville, VA.
Dissertation: "A Search for Admixtures of Massive Neutrinos in the Decay $\pi^+ \rightarrow \mu^+ + \nu_\mu$."
- 1983, B.S., Physics, University of North Carolina, Chapel Hill, NC

Experience

Computer Systems Administrator
Physics Department, University of Virginia
July 1995-present

- Manager of the department's computing and network infrastructure, including four subnets, approximately 200 desktop and research group computers and a wide variety of servers, running operating systems such as Linux, WinNT, AIX, OSF/1, VMS, HP-UX, IRIX, OS/2, Ultrix, and others.
- Developed server systems for the department and for research groups. These include a Beowulf-class Linux cluster, a database-driven IIS/ASP web server, a print accounting system, a departmental backup system and various Unix-based servers for small workgroups.
- Developed standards and software necessary to provide a complete, productive desktop environment for users of Windows and Linux. As part of this, I developed a standard Linux configuration and methods to remotely maintain Linux desktops.
- Designed and implemented three Win95/Mac computer labs. Developed a system for automatic resynchronization at login time. Migrated labs from a Novell server to a WinNT server in 1997.
- Supervisor of computer support staff, consisting of one full-time Programmer/Analyst and 1 to 4 part-time students.
- Plan department IT purchases totalling \$50,000 or more per year.

Research Scientist

Physics Department, University of Virginia
May 1995-July 1995

- Manager of a Novell server, nine workstations running various Unix-like operating systems, a VAXcluster, and a large number of microcomputers (PCs running DOS/Windows and Macintoshes), including a departmental microcomputer lab. Operating systems on these machines include AIX, OSF/1, Linux, Ultrix, HP-UX and VMS.
- Data acquisition and analysis consultant, helping users design and troubleshoot hardware and software.
- Programmer in C, C++, FORTRAN, bourne shell, DCL, tcl/tk, etc., writing code for system management and data analysis.

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Research Scientist

Physics Department, University of Virginia
May 1993-May 1995

- Participated in the Pi-Beta collaboration, which will make a precise measurement of the $\pi^+ \rightarrow \pi^0 e^+ \nu$ decay rate. (Paul Scherrer Institut, Villigen, Switzerland)
- Participated in the MEGA collaboration, which will set a new limit on the $\mu \rightarrow e \gamma$ decay rate. (Los Alamos Meson Physics Facility, Los Alamos, New Mexico)
- Wrote software in C, FORTRAN, bourne shell, DCL, tcl/tk, etc.
- Managed seven workstations, running OSF/1, Ultrix, and Linux.
- Was actively involved in the management of ten VAXes, several PCs, and workstations running AIX, HPUX and IRIX.

Research Associate

Physics Department, University of Virginia
May 1990-May 1993

- Wrote preliminary data acquisition system for the Pi-Beta experiment, using the TANDEM data acquisition system developed at PSI.
- Assembled, tested and calibrated 176 scintillators to be used in the MEGA experiment.
- Managed three RISC/Ultrix workstations.
- Participated in an experiment examining products of induced fission of heavy nuclei by stopped antiprotons. (LEAR/CERN, Geneva, Switzerland)
- Wrote a variety of software to perform data analysis, data acquisition, graphics, Monte Carlo simulations, system management tasks, etc.

Research Assistant

Physics Department, University of Virginia
June 1987 - May 1990, and Summers of 1983-87

- Participated in an experiment searching for admixtures of massive neutrinos in the decay $\pi^+ \rightarrow \mu^+ + \nu_\mu$, using high-purity germanium detectors to measure the kinetic energy of the μ^+ . (Swiss Institute for Nuclear Research, Villigen, Switzerland)
- Participated an experiment which made a more precise measurement of the π^0 mass, using neutron time-of-flight data from π^- stopped in a liquid hydrogen target. (Swiss Institute for Nuclear Research, Villigen, Switzerland)

Programming Consultant

Physics Department, University of Virginia
July 10-14, 1989

- Wrote a Monte Carlo program ("OPTICS") to simulate the propagation of photons within regions of various geometries and indices of refraction, including regions composed of wavelength-shifting material. I've continued to develop the program, and it has been used in designing several scintillation detectors.

Instructor

Piedmont Virginia Community College
Charlottesville, Virginia
Fall and Spring semesters 1988-89

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- Taught Basic College Physics I and II (fall and spring, respectively), and Introductory Applied Physics II (spring). Duties included preparing and giving lectures, devising and conducting lab sessions, organizing and maintaining lab equipment, creating and grading hour-tests, final exams and homework assignments, and the assignment of final grades.

Teaching Assistant

University of Virginia Physics Department

Fall 1983 - Spring 1987

- Taught eight semesters of lab courses, including basic physics labs for pre- meds and engineers and a nuclear radiation detection lab for third-year physics majors.

- Publications** “Fission of Heavy Nuclei Induced by Stopped Antiprotons” P. Hoffman, A.S. Iljinov, Y.S. Kim, M.V. Mebel, H. Daniel, P. David, T. von Egidy, T. Haninger, F.J. Hartmann, J. Jastrzebski, W. Kurcewicz, J. Lieb, H. Machner, H.S. Plendl, G. Riepe, B. Wright, K. Ziock. *Physical Review C*, vol. 49, no. 5, p. 2555-2568 (May 1994).
- “Antiproton-induced fission and fragmentation” P. Hoffmann, Y.S. Kim, H. Daniel, T. von Egidy, T. Haninger, F.J. Hartman, P. David, H. Machner, G. Riepe, H.S. Plendl, K. Ziock, B. Wright, D. Bowman, W. Lynch, J. Lieb, J. Jastrzebski, V. Kurcewicz. *Soviet Journal of Nuclear Physics*, vol. 55, no. 5, p. 713-717 (1992).
- “Search for admixtures of massive neutrino states in the decay $\pi^+ \rightarrow \mu^+ + \nu$ ” M. Daum, B. Jost, P.-R. Kettle, R.M. Marshall, R.C. Minehart, W.A. Stephens, B. Wright, K.O.H. Ziock. *SIN Newsletter (Switzerland)*, no. 20, p. 7-8 (Jan 1988).
- “Precision Measurement of the Mass Difference $m(\pi^-) - m(\pi^0)$ ” J. Crawford, M. Daum, R. Frosch, B. Jost, P.-R. Kettle, R.M. Marshall, B. Wright, K.O.H. Ziock. *SIN Newsletter (Switzerland)*, no. 20, p. 11-12 (Jan 1988).
- “Precision Measurement of the Mass Difference $m(\pi^-) - m(\pi^0)$ ” J. Crawford, M. Daum, R. Frosch, B. Jost, P.-R. Kettle, R.M. Marshall, B. Wright, K.O.H. Ziock. *SIN Newsletter (Switzerland)*, no. 19, p. 20-3 (Jan 1987).
- “Time-of-light Measurements in a-Si Alloy films: Predominance of Displacement Current Effects” M. Silver, E. Snow, B. Wright, M. Aiga, L. Moore, V. Cannella, R. Ross, S. Payson, M.P. Shaw, D. Adler. *Philosophical Magazine B*, (1983) vol. 47, no. 4, L39-L44.

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References Doctor R.M. Marshall
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