

Paul Lawrence Bailey

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Education

- **University of California, Irvine - Ph.D. in Mathematics (2002)**
- **Vassar College – B.A. in Mathematics with Honors (1979)**

Professional Experience

- **Sonoran Schools, Phoenix, AZ**

A consortium of non-profit charter schools, focusing on STEM education.

Teacher of AP Studies (2021 – 2025)

Taught AP Calculus AB, AP Statistics, AP Psychology, AP Seminar, AP Computer Science, Algebra II

- **Great Hearts, Phoenix, AZ**

A consortium of non-profit charter schools, focusing on classical education.

Teacher of Mathematics at Veritas Preparatory Academy (2020 – 2021)

Taught Calculus II and Euclidean Geometry.

- **BASIS.ed, Scottsdale, AZ**

A consortium of private and charter schools, featuring a highly accelerated curriculum. BASIS Scottsdale has been ranked the Number One best public high school in the United States by U.S. News.

Teacher of Mathematics at BASIS Mesa and BASIS Scottsdale (2015 – Present)

Taught AP Calculus AB and BC, AP Statistics, AP Computer Science, Vector Calculus, Abstract Mathematics, Computational Mathematics, Complex Analysis, Real Analysis, and Category Theory.

- **The Orme School of Arizona, Mayer, AZ**

A private, coeducational, college preparatory high school, founded in 1929 on a ranch in central Arizona.

Teacher of Mathematics and Science (2012 – 2015)

Taught AP Calculus AB, AP Calculus BC, AP Computer Science, Abstract Mathematics, Computational Mathematics, Precalculus, Geometry, Physics, Programming in C and C#. Coached award-winning Mathematics team. Received Frank A. Roberts Award for Excellence in Teaching in May, 2015.

- **Compugroup Medical (Noteworthy Medical Systems), Phoenix, AZ**

A creator of Medical Practice Management and Electronic Healthcare Record software, using various technologies including Intersystems Cache, MySQL, PHP, and Java.

Interface Development Manager (2011 - 2012)

Designed and programmed, in Microsoft C#, ASP.NET, and MySQL, various improvements to the interfaces of NetPractice EHRWeb, including CCR extraction, PHR interface, WCF file transfer service and client, browser based configuration forms, and conversion software. Managed employees who perform interface configuration.

Developer (2009 - 2010)

Designed and programmed, in Cache Objectscript (MUMPS) and Javascript, a new module to which allows users to create, configure, and monitor interfaces through a GUI within the NetPractice Practice Management system, optionally in conjunction with the open source interface engine Mirth. The installation of interfaces had previously required significant programmer involvement, for each interface. Consulted in the definition of a standard specification for the formatting of data for import into the NetPractice EHRWeb. Designed and programmed, in Microsoft C# and SQL, a new program intended to allow nontechnical users to import data into EHRWeb when converting from other products.

- **Southern Arkansas University, Magnolia, AR**

One of the eight public universities in Arkansas.

Assistant Professor of Mathematics (2003 - 2009)

Valued among mathematics and computer science majors as a source for multiple viewpoints, new ways of conceiving existing material, and challenging problems. Taught courses in College Algebra, Precalculus, Calculus, Linear Algebra, History of Mathematics, Abstract Algebra, Galois Theory, Real Analysis, Numerical Analysis, and Cryptography; the latter two classes included instruction on C++ programming to implement the algorithms under investigation. Created MySQL database to house assessment results combined with student demographic information downloaded from the university registration system, and to do statistical analysis of this information using both MySQL queries and C++ programs.

- **EXM, Incorporated, Hollywood, CA (1999 - 2007)**

A software consulting firm founded in conjunction with John Chisholm, President, and contracted to maintain clinical applications in MIIS (a dialect of MUMPS) at two Los Angeles Country hospitals.

Senior Software Consultant

Supported and enhanced all MIIS applications. This included Y2K modifications, a new hospital-wide surgery requisitioning system, applying MySQL and C++ to construct pharmacy label messages, and database pointer reconstruction. Designed and programmed a fully-functional MIIS emulator using C++ and Berkeley DB which ran under Windows, and successfully mounted the entire Laboratory system including its database onto this platform. This was used by the hospital for long term access to the Blood Bank Index.

- **University of California, Irvine**

One of the ten campuses in the University of California system, the University of California, Irvine, is currently ranked twelfth among public universities in the United States.

Graduate Student and Teaching Assistant (1992 - 2002)

Studied differential topology under Ronald Stern and arithmetic geometry under Michael Fried, leading to a doctorate in mathematics.

- *Incremental Ascent of a Modular Tower via Branch Cycle Designs*, Ph.D. dissertation
- *Hurwitz Monodromy, Spin Separation, and Higher Levels of a Modular Tower*, with Michael Fried, Proceedings of Symposia in Pure Mathematics, Vol. 70

- **Compucare, Incorporated**

For twenty five years, Compucare was a leader in the design and installation of hospital information systems, ranging from financial through administrative and clinical information management applications. The company was purchased by Quadramed in 1999. The software platform was known as MIIS, a dialect of ANSI standard MUMPS.

Summary (1979 – 1998)

Senior company-wide expert on the MIIS programming environment and the Order Control, Laboratory, and Pharmacy applications, which were installed in dozens of hospitals across the United States.

Software Consultant (1992 – 1998, Irvine, CA)

Part time independent contractor while in graduate school. Maintained and enhanced the MIIS applications at Los Angeles country hospitals as well as assisting in programming issues related to laboratory and pharmacy installation across the country. Extracted Surgery Scheduling module from Registration system for stand-alone installation at Olive View Medical Center in Sylmar, CA. Added complex cassette exchange features to Pharmacy Fill report.

Project Leader and Software Designer (1989 - 1992, Fountain Valley, CA)

Lead technical coordinator for LACO project. Oversaw all aspects of the installation of the complete suite of Hospital Information Systems at Harbor University Medical Center in Torrance, CA, and Olive View Medical Center in Sylmar, CA. As project leader for Laboratory, held weekly meetings with laboratory personnel to obtain specifications; programmed extensive enhancements and innovations including early usage of bar coded specimen labels integrated with bidirectional interfaces to laboratory analyzers. Designed and coded enhancements for Order Control and Pharmacy applications.

Software Consultant (1988, Fountain Valley, CA)

Independent contractor. Worked closely with medical technologists as Hoag Memorial Hospital in Newport Beach, CA, to improve and install the Compucare Microbiology module and other enhancements. Designed and coded a Laboratory Data Report Writer for multiple hospitals in Florida. Taught MIIS programming class for recent hires.

Project Leader and Software Designer (1983 - 1987, Fountain Valley, CA)

Lead programmer for new subdivision in California. Extended functionality of Order Control system. Analyzed, designed, programmed, and installed advanced Pharmacy system for Loma Linda Medical Center in Loma Linda, CA. Installed Order Control, Laboratory, and Pharmacy systems at Methodist Hospital in Arcadia, CA, and Sacred Heart Hospital in Eugene, Oregon.