

**James J. Hayes**  
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## **Education**

**M.S., Computer Science**, UC San Diego, September, 1998. Focus: Software Engineering  
**B.S., Information and Computer Science**, UC Irvine, June, 1982.

## **Programming Experience**

**Programmer/Analyst**, San Diego Supercomputer Center, 2003 to present.  
Member of a team that develops Inca, a system for monitoring the state of Grid resources.

**Software Support Programmer**, UCSD Grid Computing Laboratory, 1998 to 2003.  
Provide software infrastructure for lab research projects in distributed computing. Produce software development tools and reusable modules useful in Grid program development. Restructure research software into releasable products. Provide documentation for lab software and procedures. Mentor graduate students working on research programming projects. Redesign and reimplement the Network Weather Service, an availability forecasting service for distributed computing resources, AMWAT, a distributed computing template for computational science, and APST, a tool for automating distributed application execution.

**Research Assistant**, UC San Diego Software Engineering Laboratory, 1997 to 1998.  
Assist in the re-architecture of a medium-sized (100K lines of C++ and Tcl/Tk) graphical program restructuring tool. Adapt tool to new underlying AST architectures and source languages.

**Senior Programmer/Analyst**, TeleSoft Corporation, 1997 to 1990.  
Member of a team that enhanced and maintained a symbolic Ada debugger on multiple systems. Primary responsibility for command parsing, error reporting, and window management functions of the debugger. Worked on adaptation of the debugger to the Sun Unix system.

**Senior Programmer/Analyst**, NCR Corporation, 1982 to 1986.  
Member of project teams which produced compilers for NCR computers. Adapted Ada compilers to NCR 68000-based Unix systems. Designed, implemented and optimized code generator for a mainframe COBOL compiler. Produced software development tools and run-time resource management procedures.

**Programmer**, Public Policy Research Organization, 1980 to 1982.  
Designed, implemented, and tested programs for statistical research. Worked extensively with faculty members of the UC Irvine School of Social Ecology.

## Teaching Experience

**Workshop**, San Diego Supercomputer Center, 2006.

Taught several seminars and tutorials during a two-day workshop that introduced version 2 of the Inca grid monitoring system.

**Software Seminars**, UC San Diego Computer Science Department, 1999 to 2001.

Taught seminars on programming tools such as Perl, make, and CVS as part of the CS Department's Graduate Enrichment Seminar series.

**Teacher's Assistant**, UC San Diego Computer Science Department, 1996 to 1997.

Assist in the presentation of material on data structures, compiler code generation, and operating system architecture to undergraduates. Organize and lead discussion sections. Assist students with developing and debugger projects. Research and present material on Unix programming tools. TA Excellence Award from the UCSD Computer Science Department, 1996.

## Publications

A. Birnbaum, J. Hayes, W. Li, M. Miller, P. Bourne, H. Casanova. "Grid workflow software for High-Throughput Proteome Annotation Pipeline", *Proceedings of the First International Workshop on Life Science Grid*, Ishikawa, Japan, June 2004.

W. Li, R. Byrnes, J. Hayes, V. Reyes, A. Birnbaum, A. Shabab, C. Mosley, D. Pekurowsky, G. Quinn, I. Shindyalov, H. Casanova, L. Ang, F. Berman, M. Miller, P. Bourne. "The Encyclopedia of Life Project: Grid Software and Deployment", *Journal of New Generation Computing on Grid Systems for Life Sciences*, 2004.

G. Cooperman, H. Casanova, J. Hayes, T. Witzel. "Using TOP-C and AMPIC to Port Large Parallel Applications to the Computational Grid", *Special Issue of Journal on Future Generation Computer Systems*, 2003.

H. Casanova, J. Hayes, Y. Yang. "Algorithms and Software to Schedule and Deploy Independent Tasks in Grid Environments", *Workshop on Distributed Computing, Metacomputing, and Resource Globalization*, Aussois, France, 2002.

R. Wolski, N. Spring, J. Hayes. "The Network Weather Service: A Distributed Resource Performance Forecasting Service for Metacomputing", *Journal of Future Generation Computing Systems*, October, 1999.

R. Wolski, N. Spring, J. Hayes. "Predicting the CPU Availability of Time-shared Unix Systems", *Proceedings of 8th IEEE High Performance Distributed Computing Conference*, August, 1999.