

# Gregory A. Riccardi

## Curriculum Vitae

February, 2005

Born: May 11, 1952

Place: Houston, Texas

Marital Status: Married, three children

### Education

Ph.D., State University of New York at Buffalo, 1980, Computer Science.

M.S., State University of New York at Buffalo, 1976, Computer Science.

B.S., Florida State University, Tallahassee, Florida, 1974, Mathematics.

### Professional Positions

Professor, Department of Computer Science, Florida State University, 1996–present.

Associate Professor, Department of Computer Science, Florida State University, 1986–1996.

Assistant Professor, Department of Computer Science, Florida State University, 1981–1986.

Assistant Professor, Department of Computer Science, University of Southwestern Louisiana, Lafayette, Louisiana, January 1978–August 1981.

### Professional Honors

The William R. Jones Most Valuable Mentor Award 2001, Florida Scholars Fund and McKnight Foundation.

University Teaching Award, Florida State University, 1997.

Teaching Incentive Program Award, Florida State University, 1994.

### Personal References

Prof. Lois Wright Hawkes, Dept. of Computer Science, FSU, [hawkes@cs.fsu.edu](mailto:hawkes@cs.fsu.edu)

Prof. Paul Watson, School of Computing Science, University of Newcastle upon Tyne, Newcastle upon Tyne, United Kingdom, NE1 7RU. [Paul.Watson@ncl.ac.uk](mailto:Paul.Watson@ncl.ac.uk)

Prof. Shamkant Navathe, College Of Computing, Georgia Institute Of Technology, 801 Atlantic Dr., NW, Atlanta, GA 30332-0280. [sham@cc.gatech.edu](mailto:sham@cc.gatech.edu)

## Research and Creative Activity

### Books

1. Riccardi, Greg, Database Management with Web Site Development Applications, 2003, Addison-Wesley.

An introductory database textbook that is intended for use with students who are not computer programmers. It presents a full gamut of introductory database topics, including conceptual modeling, ER diagramming, the relational model, relational algebra, normalization, and SQL. In addition it shows students how these techniques can be used to create sophisticated Websites using JavaScript, ASP and the Microsoft IIS server.

2. Riccardi, Greg, *Principles of Database Systems: With Internet and Java Applications*, 2001, Addison-Wesley.

A database textbook that takes advantage of the increasing importance of the Internet to information systems. This book fills a void in database textbooks. It is application oriented and covers the full lifecycle of information systems development and deployment. It is aimed specifically at undergraduate Computer Science majors taking an upper-division course in database systems.

3. Folk, Michael J., Bill Zoellick, and Greg Riccardi, *File Structures: An Object-Oriented Approach with C++*, Addison-Wesley, 1998.

This is my revision of *File Structures, second edition* by Folk and Zoellick. I updated the material in the second edition and completely replaced all of the programming examples. I was able to introduce an object-oriented approach to storing and retrieving information.

Approximately half of the book was completely rewritten and the rest was substantially revised. I wrote full implementations of all of the file structure techniques and included them in the book.

It was my goal to produce a book that teaches object-oriented design and programming in the context of a complex data structure problem domain. The book is being used in courses around the country.

The progressive presentation of the object-oriented material begins with the simplest classes and I/O in C++. New features of file structures, new features of C++, and new features of object-oriented design are introduced together. Class inheritance is developed together with an approach to using buffers for I/O. Virtual functions are introduced as part of the solution to the problem of allowing a variety of buffer techniques. Templates in C++ are used to support indexing. A complex class structure is used to support co-sequential processing.

The careful development of these classes allows the presentation of very complex structures, such as B trees, in very simple terms. The full implementation of B tree indexes, including a test program, is only 10 pages of C++ code. This is made possible by the classes that are presented earlier in the book.

### Publications in Refereed Journals and Conference Proceedings

1. Ehlmann, B.K., G.A. Riccardi, N.D. Rische, and J. Shi, "Specifying and Enforcing Association Semantics via ORN in the Presence of Association Cycles, *IEEE Transactions on Knowledge and Data Engineering*, November/December 2002 (Vol. 14, No. 6), pp. 1249-1257.

2. Riccardi, G. A., S.J. Eaves III, and L.C. Dennis, "Managing Scientific Computations with a Java-based Schema Extension Facility," *Proceedings of 2000 ACM Symposium on Applied Computing*, Como, Italy, March 19–21, 2000.
3. Ehlmann, B.K. and G.A. Riccardi, "An Integrated and Enhanced Methodology for Modeling and Implementing Object Relationships," *Journal of Object Oriented Programming*, SIGS publications, **10**(2), 18 ms. pages, May, 1997.
4. Ehlmann, B.K. and G.A. Riccardi, "Object Relator Plus, A Practical Tool for Developing Enhanced Object Databases", *Proceedings of ICDE 97, the 13th International Conference on Data Engineering*, Birmingham, England, April, 1997.
5. Ehlmann, B.K. and G.A. Riccardi, "A Comparison of ORN to Other Declarative Schemes for Specifying Relationship Semantics ," *Information and Software Technology*, Elsevier Science, **38**(7), July, 1996, 455–465.
6. Huang, W. and G.A. Riccardi, "Modeling and Implementing Dynamic, Object-Oriented Views," *Proceedings of the 1995 International Conference on Applications of Databases*, San Jose, California, December, 1995.
7. Dragovitsch, Zhao, Dennis, and Riccardi, "PvmGeant—A Parallel Simulation Code for the CLAS Detector at CEBAF," *International Journal of Supercomputer Applications and High Performance Computing*, v.9, 1995.
8. Johnson, K., J. Bauer, G. Riccardi, K. Drogemeier, and M. Xue, "Distributed Processing of a Regional Prediction Model," *Monthly Weather Review*, 1994.
9. Ehlmann, B.K. and G.A. Riccardi, "A Notation for Expressing Aggregate Relationships in an Object-Oriented Data Model," *Proceedings of the International Conference on Applications of Databases*, Vadstena, Sweden, W. Litwin and T. Risch (Eds.), Lecture Notes in Computer Science, Springer-Verlag, 1994, pp. 62–67.
10. X. Zhao, P. Dragovitsch, L. Dennis, and G. Riccardi, "Parallel Simulation Code for the CLAS Detector at CEBAF," *CLUSTER WORKSHOP '93*, Dec.6–9, 1993, Tallahassee, FL.
11. Ehlmann, B.K., L.C. Dennis, and G.A. Riccardi, "An Object-based Conceptual Model of a Nuclear Physics Experiments Database," *Nuclear Instruments and Methods in Physics Research*, **A325**, 1993, pp. 294–308.
12. Ehlmann, B.K., G.A. Riccardi, and L.C. Dennis, "Representing Non-Inheritance Relationships in an Object-Oriented, Scientific Database," *International Conference on Scientific and Statistical Databases*, 1992, pp. 99–109.
13. Riccardi, G.A., and B.K. Ehlmann, "Object-Oriented Development of Scientific Databases, an Example from Experimental Physics," *Proceedings of the First Software Engineering Research Forum*, Tampa, Florida, Nov. 7–8, 1991, pp. 277–286.
14. Riccardi, G.A., C. Bauer, and H. Lim, "Boundary Processing in a Vectorized Model of Lattice Gas Hydrodynamics," with Bauer and Lim, *Physica D* **47**, 1991, pp. 281–295. Report on dealing with boundaries and obstacles in the vector lattice gas algorithm.
15. Riccardi, G.A., C. Bauer, and H. Lim, "A Vectorized Cellular Automata Model of Fluid Flow," *Proceedings of the NATO Advanced Research Workshop on Lattice Gas Methods for PDEs*. Los Alamos, NM, January 15, 1990.

16. Riccardi, G.A., B. Traversat, and U. Chandra, "A Machine Independent Approach to Parallel Programming," *Proceedings of PARBASE-90: International Conference on Databases, Parallel Architectures, and their Applications*, IEEE Computer Society Press, March, 1990. Technical Report FSU-SCRI-89-108.
17. Riccardi, G.A., C. Bauer, and H. Lim, "A Vector Algorithm for Lattice Gas Hydrodynamics," *International Journal of Supercomputer Applications*, v. 3, no. 4, Winter, 1989, pp. 64–67. Report on a strategy for representing a hydrodynamics algorithm on vector computers.
18. Riccardi, G.A., and P. Schow, "Adaptation of the ISODATA Clustering Algorithm for Vector Supercomputer Execution," *Proceedings of Supercomputing 88*, v. 2, February, 1989.
19. Riccardi, G.A., U. Chandra, F. Hannedouche, and J. Vagi, "Aftran: Array Fortran Programming Language," *Computer Physics Communications*, 1988. Technical report FSU-SCRI-89T-16. A description of the Aftran programming language.
20. Riccardi, G.A., "Runtime Environments for Parallel Applications," Mini-track overview, *Proceedings of the 21<sup>st</sup> Hawaii International Conference on System Sciences*, v.1, Software Track, IEEE, January, 1988.
21. Baker, T.P., and G.A. Riccardi, "Implementing Ada Exceptions," *IEEE Software*, September, 1986. A precise description of the use and implementation of exceptions in Ada. The first publication to cover the topic comprehensively.
22. Hook, A., G.A. Riccardi, and M. Vilot, "Ada Compiler Performance Benchmarks," *Proceedings of the Ada Europe Conference 1986*, Cambridge University Press, 1986.
23. Baker, T.P., and G.A. Riccardi, "Ada Tasking: From Semantics to Efficient Implementation," *IEEE Software*, March 1985. Refereed Journal. A precise semantics of the Ada model of concurrent program execution. pp. 34–46.
24. Riccardi, G.A., and T.P. Baker, "A Runtime Supervisor to support Ada Tasking: Rendezvous and Delays," with T.P. Baker, *Proceedings of the 1985 International Conference on Ada*, Paris, France, May, 1985, Cambridge University Press. Refereed Conference. A detailed report on the semantics of interprocess communication in the Ada programming language. pp. 329–342.
25. Baker, T.P., and G.A. Riccardi, "A Runtime Supervisor to Support Ada Task Activation, Execution and Termination," *Proceedings of the Conference on Ada Applications and Environments*, IEEE Computer Society, 1984. A detailed description of Ada Tasking semantics. pp. 14–22.
26. Riccardi, G.A., "The Independence of Control Structures in Programmable Numberings of the Partial Recursive Functions," *Zeitschrift für Mathematische Logik und Grundlagen der Mathematik*, 1982. Refereed Journal. The solution of some difficult problems in Recursive Function Theory which are related to programming language semantics. pp. 287–296.
27. Riccardi, G.A., "The Independence of Control Structures in Abstract Programming Systems," *Journal of Computer and System Sciences*, Vol. 22, No. 2, April, 1981. Refereed Journal. An approach to studying Programming Language Semantics with recursive function theory. pp. 107–143.

## **Refereed Journal Publications of the Jefferson Lab CLAS Collaboration**

The following publications are written by members of the CEBAF Large Angle Calorimeter (CLAS) collaboration at the Continuous Electron Beam Accelerator Facility (CEBAF) at the Thomas

Jefferson National Laboratory. All full members of the collaboration participate in the production of the data and analyses leading to these papers and are included in the list of authors.

1. The CLAS Collaboration: J. Price, et al, "Exclusive Photoproduction of the Cascade ( $\Xi$ ) Hyperons," , submitted to *Physical Review C*, 9/2004.
2. The CLAS Collaboration: S. Niccolai, et al, "Complete measurement of three-body photodisintegration of  $^3\text{He}$  for photon energies between 0.35 and 1.55 GeV," accepted by *Physical Review C*, 10/2004.
3. The CLAS Collaboration: K. Joo, et al, "Measurement of the Polarized Structure Function  $\sigma_{LT}$  for  $p(e(\text{vec}),e'\pi^+)n$  in the Delta resonance region," accepted by *Physical Review C*, 9/2004.
4. The CLAS Collaboration: C. Hadjidakis, M. Guidal, et al, "Exclusive  $\rho^0$  meson electroproduction from hydrogen at CLAS," accepted by *PLB*, 11/2004.
5. The CLAS Collaboration: D. Protopopescu, et al, "Survey of  $A_{LT}$  asymmetries in semi-exclusive electron scattering on  $\text{He}^4$  and  $\text{C}^{12}$ ," accepted by *Nuclear Physics A*, 11/2004.
6. The CLAS Collaboration: A.V. Stavinsky, K.R. Mikhailov, R. Lednicky, A.V. Vlasov, et al, "Proton source size measurements in the  $eA \rightarrow e'ppX$  reaction," *Physical Review Letters* **93**, 2004.
7. The CLAS Collaboration: M. Mirazita, et al, "Complete Angular Distribution Measurements of Two-Body Deuteron Photodisintegration between 0.5 and 3 GeV," *Physical Review C* **70**, 2004.
8. The CLAS Collaboration: P. Rossi, et al, "Onset of asymptotic scaling in deuteron photodisintegration," *Physical Review Letters* **94**, 2004.
9. The CLAS Collaboration: V. Kubarovsky, L. Guo, et al, "Observation of an exotic baryon with  $\{S=+1\}$  in photoproduction from the proton," *Physical Review Letters* **92**, 2004.
10. The CLAS Collaboration: K. McCormick, et al, "Tensor Polarization of the  $\phi$  meson Photoproduced at High  $t$ ," *Physical Review C* **69**, 2004.
11. The CLAS Collaboration: R. Niyazov, et al, "Two-Nucleon Momentum Distributions Measured in  $^3\text{He}(e,e'pp)n$ ," *Physical Review Letters* **92**, 2004 .
12. The CLAS Collaboration: S. Stepanyan, et al, "Observation of an Exotic  $S = +1$  Baryon in Exclusive Photoproduction from the Deuteron," *Physical Review Letters* **91**, 2003.
13. The CLAS Collaboration: R. Fatemi, et al, "Measurement of the Spin Structure Functions in the Resonance Region for  $Q^2$  from 0.15 to 1.6  $\text{GeV}^2$ ," *Physical Review Letters* **91**, 2003.
14. The CLAS Collaboration: J. W. C. McNabb, et al, "Hyperon Photoproduction in the Nucleon Resonance Region," *Physical Review Letters* **69**, 2004.
15. The CLAS Collaboration: H. Avakian, et al, "Measurement of Beam-Spin Asymmetries for  $e(\text{pol})p \rightarrow e'\pi^+ X$  in the Deeply Inelastic Regime," *Physical Review Letters* **69**, 2004.
16. The CLAS Collaboration: K. Joo, et al, "Measurement of Polarized Structure Function  $\sigma_{LT}$  for  $p(e(\text{vec}),e'p)\pi^0$  from single  $\pi^0$  electroproduction in the Delta resonance region," *Physical Review C* **68**, 2003.
17. The CLAS Collaboration: A. Biselli, et al, "Study of the  $\Delta(1232)$  using single and double polarization asymmetries," *Physical Review C* **68**, 035202, 2003.

18. The CLAS Collaboration: K. Sh. Egiyan, et al, "Observation of Nuclear Scaling in the  $A(e,e)$  Reaction at  $x_{\text{Bjorken}} > 1$ ," *Physical Review C* **68**, 035202, 2003
19. The CLAS Collaboration: M. Ripani, et al, " $ep \rightarrow e'p \pi^+ \pi^-$  and baryon resonance analysis," *Physical Review Letters* **91**, 2002.
20. The CLAS Collaboration: J. Yun, et al, "Measurement of Inclusive Spin Structure Functions of the Deuteron with CLAS," *Physical Review C* **67**, 2003.
21. The CLAS Collaboration B. Mecking, et al, "The CEBAF Large Acceptance Spectrometer," *Nuclear Instruments and Methods*, **503/3**, 2003
22. The CLAS Collaboration D. Carman, et al, "First Measurement of Transferred Polarization in the Exclusive  $e(\text{pol})p \rightarrow e'K+\Lambda(\text{pol})$  Reaction," *Physical Review Letters*, **90**, 2003.
23. The CLAS Collaboration: M. Osipenko, et al, "A Complete Measurement of the F2 Proton Structure Function in the Resonance Region and the Evaluation of the Moments," *Physical Review D* **67**, 2003.
24. The CLAS Collaboration: M. Battaglieri, et al, "Photoproduction of the omega meson on the proton at large momentum transfer," *Physical Review Letters* **90**, 2002.
25. The CLAS Collaboration: M. Dugger, et al, "eta photoproduction on the proton for photon energies from 0.75 to 1.95 GeV," *Physical Review Letters* **89**, 2002.
26. The CLAS Collaboration: R. DeVita, et al, "First Measurement of the Double Spin Asymmetry in  $e(\text{pol})p(\text{pol}) \rightarrow e'\pi+n$  in the Resonance Region," *Phys. Rev. Lett.* **88**, 082001 (2002); Erratum **88**, 082001 (2002).
27. The CLAS Collaboration: K. Joo, et al, "Q2 Dependence of Quadrupole Strength in  $\gamma^* \rightarrow \Delta(1232)$ ," *Physical Review Letters* **88**, 122001 (2002).
28. The CLAS Collaboration: M. Battaglieri et al, "Photoproduction of  $\rho_0$  Meson on the Proton at Large Momentum Transfer," *Physical Review Letters* **87** 172002 (2001). LANL preprint: hep-ex/0107028.
29. The CLAS Collaboration: S. Barrow et al, "Electroproduction of the  $\Lambda(1520)$  Hyperon," *Physical Review C* **64**, 044601 (2001). LANL preprint: hep-ex/0105029.
30. The CLAS Collaboration: S. Stepanyan et al, "Observation of exclusive deeply virtual Compton scattering in polarized electron beam asymmetry measurements," (10 October 2001) *Physical Review Letters* **87**, 182002 (2001). LANL preprint: hep-ex/0107043.
31. The CLAS Collaboration: K. Lukashin, et al, "Exclusive electroproduction of phi mesons at 4.2 GeV." *Physical Review C* **63**. 065205-1 (23 October 2001); LANL preprint: hep-ex/0101030.
32. The CLAS Collaboration: R. Thompson et al, "The  $ep \rightarrow e'p(\eta)$  Reaction At and Above the S11(1535) Baryon Resonance," *Physical Review Letters* **86**, 1702 (2001). LANL preprint: hep-ex/0011029.
33. The CLAS Collaboration: E. Anciant, et al, "Photoproduction of  $\phi(1020)$  Mesons on the Proton at Large Momentum Transfer." *Physical Review Letters* **85**, 4682 (2000).

## Articles in Books

1. Riccardi, G.A., "Supercomputers," *Macmillan Encyclopedia of Computers*, 1992.

## Publications in Non-refereed Conference Proceedings

1. P. Dragovitsch, Xuwei Zhao, L. Dennis, and G. Riccardi, "The Parallelized GEANT Code PvmGeant for the CLAS Detector at CEBAF," *Conference on the Intersection of Particle and Nuclear Physics*, June 1–6, 1994, St.Petersburg, FL.
2. Riccardi, G.A., U. Chandra, F. Hannedouche, and J. Vagi, "Aftran: Array Fortran Programming Language," with Conference on Computing in High Energy Physics, Oxford, April, 1989.
3. P. Dragovitsch, Xuwei Zhao, L. Dennis, and G. Riccardi, "High Performance Geant Simulations of the CLAS Detector at CEBAF," *Division of Nuclear Physics Fall Meeting of the American Physical Society*, October 26–29, 1994, Williamsburg, VA.
4. McKinley, K., and G.A. Riccardi, "An Implementation of Ada Data Structures," *Proceedings of the 23rd Annual Conference of the Southeast Region ACM*, Nashville, Tennessee, April, 1985. Not refereed. A preliminary report from a Master's Thesis.
5. Belkhouche, B., J. Urban, and G.A. Riccardi, "Synthesizing Abstract Data Types Specifications," *Proceedings of the 20<sup>th</sup> Southeast Regional ACM Conference*, April, 1982. pp. 176–181.

## Software and Technology Projects

1. MorphBank morphology and taxonomy database and Web system, 2004–present.  
A system to collect, annotate, analyze and manage information for systematic taxonomics and morphology for biologists at FSU and elsewhere. Our group has been actively leading an international effort to achieve interoperability among the several taxonomic image databases. We have developed and published data schemas and Web sites in support of our efforts. NSF support for this project is pending.
2. Global Grid Forum Database Access and Integration Services (DAIS) Working Group, 2002–present.  
Contributed to development of standards and specifications for data access in the Grid community. I am a primary author of the base specification document and have contributed to the relational and XML database access specifications. I have participated in many conferences and workshops and made significant contributions to the direction and technology of this successful group.
3. CEBAF Experiments Database, 1989–present.  
A database to manage the data acquisition, data analysis, and software for the Continuous Electron Beam Accelerator Facility (CEBAF), a \$500 million Dept. of Energy project currently under construction in Virginia. This is utilizing an object-oriented database to provide the capability of integrating both standard meta-data management and the data analysis and data acquisition aspects of the facility. In collaboration with Physics faculty members Larry Dennis and Adam Sarty, FAMU faculty member Bryon Ehlmann, SCRI researchers Peter Dragovitsch and Stephen Barrow, postdoctoral researcher David Meekins, graduate students, Samuel Eaves, Dmitriy Blaginin, Qing Zhang, Hongwei Wang, Troy Cochran, and Jonathon Felder.
4. Co-director of the development of the FSU Ada Compiler, 1982–1986.  
Directed the Code Synthesis and Runtime System phases of the compiler development. The complete software system consists of approximately 60,000 lines of code. In

collaboration with Ted Baker and graduate students Tom Leonard, Sheila O'Connell, Kathy McKinley, Ken Spaulding, and Jim Groh.

5. FSU Ada Compiler Validation, 1986.

Result was successful processing of the 2500 Ada Validation Tests. This is the first University sponsored Compiler for Ada to complete the validation process. In collaboration with Ted Baker and graduate students Tom Leonard, Sheila O'Connell, Kathy McKinley, Ken Spaulding, and Jim Groh.

## Research Reports and Technology Specifications

1. Mario Antonioletti, Malcolm Atkinson, Amy Krause, Simon Laws, Susan Malaika, Norman W Paton, Dave Pearson, Greg Riccardi, "Web Services Data Access and Integration (WS-DAI) Specifications," GGF Data Area Working Paper, /projects/dais-wg/document/Grid\_Data\_Service\_Specification/en/5, March, 2004.
2. Greg Riccardi, Mahadevan Subramanian, Shailendra Misra, Simon Laws, "GGF10 DAIS Usage Scenarios," DAIS Working Document, February, 2004
3. Greg Riccardi, "A Proposal for Aggregating DAIS Service Requests," DAIS Working Document, January, 2004.
4. Greg Riccardi, "GGF9 DAIS Usage Scenarios," DAIS Working Document, October, 2003.
5. Greg Riccardi, "DAIS Data Service Interactions and the SkyQuery Portal," DAIS Working Document, August, 2003.
6. Malcolm Atkinson, Simon Laws and Greg Riccardi, "Rationale for the Data Access and Integration Architecture," DAIS Working Document, August, 2003.
7. Greg Riccardi, "Client Programming Interfaces and Examples," DAIS Working Document, August, 2003.
8. Greg Riccardi, "Model Examples: Simple Client-Service Interactions," DAIS Working Document, July, 2003.
9. M. Antonioletti, M.P. Atkinson, N. P. Chue Hong, A. Krause, S. Malaika, G. McCance, S. Laws, J. Magowan, N.W. Paton, G. Riccardi, "Grid Data Service Specification," , DAIS Working Document, June 2003.
10. Greg Riccardi, "Sample Mappings from DAIS Conceptual Model to Service Instances," DAIS Working Document, June, 2003.
11. Neil P Chue Hong, Amy Krause, Susan Malaika, Gavin McCance, Simon Laws, James Magowan, Norman W Paton, Greg Riccardi, "Grid Database Service Specification Primer," DAIS Working Document, May, 2003.
12. A. Krause, S. Malaika, G. McCance, J. Maguire, N. Paton, G. Riccardi, "Grid Database Service Specification," DAIS Working Document, September, 2002.
13. Dragovitsch, P., L.C. Dennis and G.A. Riccardi, "A Computer System for Data Analysis and Data Acquisition for the CEBAF Large Acceptance Spectrometer," SCRI Technical Report FSU-SCRI-92-63.
14. Riccardi, G.A., A. Sharieh and J. Carr, "Adaptation of the Lanczos Method for Parallel Execution," SCRI Technical Report FSU-SCRI-91-153, June, 1991.

15. Sharieh, A., G.A. Riccardi and J. Carr, "Parallel Implementation of the Lanczos Method," SCRI Technical Report FSU-SCRI-91-35, March, 1991.
16. Riccardi, G.A., B. Traversat, and U. Chandra, "A Machine Independent Approach to Parallel Programming," SCRI Technical Report FSU-SCRI-89-108.
17. Riccardi, G.A., C. Bauer and H. Lim, "A Vectorized Cellular Automata Model of Fluid Flow," SCRI Technical Report FSU-SCRI-89T-53, 1989.
18. Dekeyser, Georgiopoulos, Hannedouche, Riccardi, Vagi, and Youssef, "Afrtran: Array Fortran Programming Language," SCRI Technical Report FSU-SCRI-89T-16, 1989.
19. Dekeyser, Georgiopoulos, Hannedouche, Riccardi, Vagi, and Youssef, "The Afrtran Vector Preprocessor Project," SCRI Technical Report FSU-SCRI-88T-43, 1988. "A Master-slave Model of Parallel Processing," with Chandra and Traversat, SCRI Technical Report FSU-SCRI-88T-134, 1988.
20. Riccardi, G.A., D. Druding, and D. Kopriva, "Multiprocessing of Multi-domain Spectral Methods on the ETA-10 Supercomputer," SCRI Technical Report FSU-SCRI-88T-33, March, 1988.
21. Riccardi, G.A., and P. Schow, "Adaptation and Performance of the ISODATA Clustering Algorithm on the Cyber 205 and ETA-10 Supercomputers," SCRI Technical Report FSU-SCRI-88T-32, March, 1988.
22. Riccardi, G.A., and M.I. McGinnis, "Hermes<sup>10</sup>—Message Passing on the ETA-10," SCRI Technical Report FSU-SCRI-88T-31, March, 1988.
23. Hook, A., G.A. Riccardi, and M. Lake, "Analyses of Reported Problems with Validated Ada Compilers," IDA Paper P-1954. October, 1986.
24. Riccardi, G.A., and T.P. Baker, "A Run-time Supervisor to Support Ada Tasking: Part 2, Rendezvous and Delays," FSU Ada Project Report 83-7, May, 1983. A detailed design document for the FSU Ada Compiler Project. Revised and published (6).
25. Riccardi, G.A., and T.P. Baker, "A Run-time Supervisor to Support Ada Tasking: Part 1, Task Activation, Execution and Termination," with T.P. Baker, FSU Ada Project Report 83-6, May, 1983. A detailed design document for the FSU Ada Compiler Project. Revised and Published (2). pp. 1–17.
26. Baker, T.P., and G.A. Riccardi, "The Florida State University Ada Compiler Effort," F.S.U. Ada Project Report number 82-3. Research Technical Report. A paper describing the major strategies employed in the F.S.U. Ada Compiler Project. pp. 1–10.

## Research Grants and Contracts

1. Ronquist, F., G. Riccardi, R. van Engelen, A. Mast, and G. Erickson, "MorphBank: Web Image Database Technology for Comparative Morphology and Biodiversity Research," submitted to NSF June, 2004, rated "Outstanding." Requested \$2,500,000.
2. Eugenio, P. and G. Riccardi, "Support for Experimental Nuclear Physics at CSIT," funded by U.S. Dept. of Energy for \$450,000 for the period November, 2004–October, 2007.

3. Dennis, L.C., G. A. Riccardi, and P. Eugenio, "Support for Experimental Nuclear Physics at CSIT," funded by U.S. Dept. of Energy for \$580,000 for the period November, 2001–October, 2004.
4. Dennis, L.C., and G. A. Riccardi, "Support for Experimental Nuclear Physics at CSIT," funded by U.S. Dept. of Energy for \$598,000 for the period October, 1998–September, 2001.
5. Dennis, L.C., G. A. Riccardi, and P. Dragovitsch, "Support for Experimental Nuclear Physics at SCRI," funded by U.S. Dept. of Energy for \$614,000 for the period October, 1995–September, 1998.
6. Olson, Riccardi, and others, "Grand Challenge Application on HENP Data," submitted to US Dept. of Energy Grand Challenge program. Award announced February, 1997. Total funding of \$2.4 million for 3 years awarded to Lawrence Berkeley National Lab. Joint project with Lawrence Berkeley National Lab, Argonne National Lab, Brookhaven National Lab, Florida State University, UCLA, University of Tennessee, and Yale University.
7. Riccardi, G.A., "Central and Remote Databases for DUI Information." software development contract funded by the Florida Dept. of Highway Safety and Motor Vehicles for the period of October, 1996–September, 1997 for \$37,000.
8. Riccardi, G.A., "Central and Remote Databases for DUI Information." software development contract funded by the Florida Dept. of Highway Safety and Motor Vehicles for the period of April, 1996–April, 1997 for \$100,000.
9. Riccardi, G.A., L.C. Dennis, and P. Dragovitsch, "Support for Experimental Nuclear Physics at SCRI," funded by U.S. Dept. of Energy for \$308,000 for the period October, 1992–September, 1995.
10. Riccardi, G.A. and J.J. O'Brien, "Massively Parallel Computation for Ocean Modelling," funded by the Office of Naval Research for \$320,000 for the period March, 1993–March, 1996.
11. Riccardi, G.A., Computer Science Section of the F.S.U. Supercomputer Computations Research Institute proposal funded by the U.S. Department of Energy for 1991.
12. Riccardi, G.A., Computer Science Section and Massively Parallel Computing Section of the SCRI five year proposal funded by the U.S. Department of Energy for the period 1989–1994.
13. Riccardi, G.A., Computer Science Section of the F.S.U. Supercomputer Computations Research Institute proposal funded by the U.S. Department of Energy for 1990.
14. Riccardi, G.A., Computer Science Section of the F.S.U. Supercomputer Computations Research Institute proposal funded by the U.S. Department of Energy for 1989.
15. Riccardi, G.A., Computer Science Section of the F.S.U. Supercomputer Computations Research Institute proposal funded by the U.S. Department of Energy for 1988.
16. Riccardi, G.A., "A Prototype Ada Compiler Evaluation System," Institute for Defense Analysis, funded for \$30,000 for the period of May, 1985 to December, 1985.
17. Baker, T.P., and G.A. Riccardi, "An Extension to the Ada Compiler Project," U.S. AFATL, Eglin AFB, funded for \$300,000 for the period August, 1984 to September, 1985.
18. Baker, T.P., and G.A. Riccardi, "An Extension to the Ada Compiler Project," USAF Armament Division, Eglin Air Force Base, funded for \$300,000 for the period August, 1983 to September, 1984.

19. Baker, T.P., and G.A. Riccardi, "An Extension to the FSU Ada Compiler Project," a proposal submitted in May, 1982, to the USAF Armament Lab at Eglin AFB, funded for \$160,000 for the period June, 1982 to December, 1983.
20. Riccardi, G.A., "Comparative Study of Process Control Languages," Pratt and Whitney Aircraft Division of United Technologies, Inc., funded for \$11,000 for the period June to October, 1982.

## **Talks at Conferences and Meetings**

1. Riccardi, G.A., "Aggregating Data Access and Integration Requests," Global Grid Forum DAIS Working Group Meeting, Chicago, October 2003.
2. Riccardi, G.A., "Scenarios for Data Access and Integration," Global Grid Forum GGF 9, Chicago, October 2003.
3. Riccardi, G.A., "Conceptual Data Models for DAIS," Global Grid Forum DAIS Working Group Meeting, Hursley, England, August 2003.
4. Riccardi, G.A., "Data Models for DAIS," Global Grid Forum GGF 8, Tokyo, March 2003.
5. Riccardi, G.A., "Mapping Data Access Scenarios into the DAIS Framework," Global Grid Forum GGF 8, Tokyo, March 2003.
6. Riccardi, G.A., "Managing Data in a Grid Environment," Global Grid Forum GGF 8, Edinburgh, July 2002.
7. Riccardi, G.A., "Managing Calibration Constants at Jefferson Lab," January 18, 2000.
8. Dragovitsch, P., X. Shao, L.C. Dennis, and G.A. Riccardi, "PvmGeant—A Parallel Simulation Code for the CLAS Detector Simulator at CEBAF." Workshop on Cluster Computing, SCRI, December, 1993.
9. Johnson, K., J.T. Bauer, and G.A. Riccardi, "Distributed Processing of a Regional Prediction Model," Workshop on Cluster Computing, SCRI, December, 1992.
10. Riccardi, G.A., "Managing Data Analysis at CLAS," CEBAF Collaboration Meeting, March 25, 1994.
11. Riccardi, G.A., "CLAS Scientific Database," CEBAF Collaboration Meeting, July 17, 1993.

## **Honors and Invited Lectures**

1. Riccardi, G.A., "Managing Scientific Information Using the DAIS Framework," invited talk, Department of Computer Science, Newcastle University, England, May 25, 2003.
2. Riccardi, G.A., "Managing Scientific Information: Making the Internet Work for Big Science," invited talk, Department of Computer Science, University of Aberdeen, Scotland, October 23, 2002.
3. Riccardi, G.A. "Dataflow Representation for Heterogeneous Parallel Computation," Workshop on Heterogeneous Network-Based Concurrent Computing, November, 1991, Tallahassee, Florida.
4. Riccardi, "Computer Science in Scientific Computing," invited talk, University of South Alabama, June, 1990.

5. Riccardi, G.A., C. Bauer, and H. Lim, "A Vectorized Cellular Automata Model of Fluid Flow," NATO Advanced Research Workshop on Lattice Gas Methods for PDE's. Los Alamos, NM, September, 1989.
6. Riccardi, G.A., "Use of Supercomputers for Science at SCRI," invited talk, Lawrence Berkeley Laboratories–Jackson State University–Mendez Institute Conference on the Use of Computers in Scientific Research, Jackson, Mississippi, November, 1988.
7. Riccardi, G.A., "Runtime Environments for Parallel Applications," panel session chairman, 21<sup>st</sup> Hawaii International Conference on System Sciences, January, 1988.
8. Riccardi, G.A., "Ada," invited talk, University of South Alabama, March, 1985.
9. Riccardi, G.A., "Strong Typing in Ada," invited talk, Tulane U., January, 1985.
10. Riccardi, G.A., "A Tutorial on Abstract Data Types," invited talk, University of Denver, Department of Mathematical Sciences, November 1980.
11. Riccardi, G.A., "A Recursion Theoretic Approach to Programming Language Semantics," invited talk, Workshop on Recursion Theoretic Aspects of Computer Science, Purdue University, May 1981.

## Teaching

### Ph.D. Students Directed

1. Gaitros, D., "Annotations in a Scientific Database Environment.
2. Eaves, S., "Managing Scientific Computation," Ph.D, April, 2000.
3. Stiller, E., "A Heuristic Approach to RNA Secondary Structure Prediction," Ph.D. awarded December, 1996. Currently employed as Assistant Professor, Department of Computer Science, Plymouth State University, Plymouth, New Hampshire.
4. Huang, W., "MultiSchema: Dynamic View Management for Object Database Systems," Ph.D. awarded, April, 1996. Currently employed by Oracle Corporation, Mountain View, California.
5. Ford, C., "Modelling Experimental Data Analysis," Ph.D. awarded, Spring, 1995. Currently employed as Associate Professor of Computer Science, University of Arkansas at Little Rock.
6. Mayne, W., "An Investigation of Guarded Assignments as a Coordination Language for Large Grain Parallel Programming," Ph.D. awarded, Summer, 1992. Hired as Postdoctoral Research Associate at the Center for Mesoscale Air–Sea Interactions, Dept. of Meteorology, Florida State University.
7. Ehlmann, B., "Applying and Object-Oriented Database Model to a Scientific Database Problem: Managing Experimental Data at CEBAF," Ph.D. awarded, Spring, 1992. Currently employed as Professor of Computer and Information Sciences at Florida A&M University.
8. Sharieh, A., "Exploiting Parallel Processing in Large Scientific Applications," Ph.D. awarded, Summer, 1991. Currently employed as Associate Professor of Computer Science at the University of Jordan.

9. Traversat, B. "Neptune, The Application of Coarse-Grain Data Flow Methods to Scientific Parallel Programming." Ph.D. awarded, Fall, 1990. Currently employed at NASA Ames Research Center as a specialist in high performance parallel scientific computing.

### **Recent Ph.D. Committee Memberships**

1. Danielle Morel-Malfa, Physics Dept., 2002.
2. Simeon McAleer, Physics Dept., 2002.
3. Richard Cavanaugh, Physics Dept., 1999.
4. Dan Archer, Physics Dept., 1996.
5. Glen Johns, Physics Dept., 1996.
6. Frank Mueller, Computer Science Dept., 1995.
7. William Jennings, Physics Dept., expected 1995.
8. Mark Goforth, Physics Dept., 1995.
9. Phillip Womble, Physics Dept., 1993.
10. Thomas Hassenmacher, Physics Dept., 1992.
11. Behrooz Hammadi, Mathematics Dept., 1992.
12. Ilan Itzkovitch, Computer Science Dept., 1992.
13. Sara Stoecklin, Computer Science Dept., 1991.
14. Marion Harmon, Computer Science Dept., 1991.
15. Ted Geiring, Computer Science Dept., 1991.
16. Suzanne Smith, Computer Science Dept., 1991.
17. Lee Sawyer, Physics Dept., 1991.
18. Jean-Luigi Boca, Physics Dept., 1990.
19. April Meckling, Physics Dept., 1990.

### **M.S. Students Directed**

1. Svitlana Mazurkova, expected 2004.
2. Sergio Souza, 2003.
3. Sami Sarhan, 2003.
4. Anatoly Reznik, 2002.
5. Lakshmi Valsalakumari, 2001.
6. Ashley Board, 2001.
7. Wenzhong Cao, 2001.
8. Dmitriy Blaginin, 1999.

9. Jia Yu, 1998.
10. Carlos Fernandez, 1998.
11. Mark Bynum, 1997.
12. Tracie George, 1997.
13. Yuwen Wu, 1997.
14. Erik Cotsonas, 1997.
15. Rajagopal Ramchandran, 1996.
16. Rekha Chandrasekhar, 1996.
17. Mausumi Das, 1995.
18. Jocelyn Quimbo, 1994.
19. Qing Wang, 1994.
20. Raghuram Thiagarajan, 1993
21. Manoj Agrawal, 1991
22. Phillip Shaw, 1992
23. Shiao Yann Lin, 1992
24. James Harvin, 1992
25. Randall White, 1991
26. Tom Green, 1991
27. Charles Bauer, 1990
28. Eric Vetillard, 1989
29. Jon Vagi, 1989
30. Dino Druding, 1988
31. Peter Schow, 1988
32. Ian McGinnis, 1987
33. Kathryn McKinley, 1985
34. James Dumoulin, 1982

### **B.S. Honors Thesis Students Directed**

1. Mathew Shore (co-direction), 1992–1994
2. Joseph Kiniry, 1990–1991.

### **Recognition of Outstanding Teaching**

1. University Teaching Award, 1997
2. Teaching Incentive Program Award, 1994.

3. Nominated for University Teaching Award, 1994.
4. Nominated for University Teaching Award, 1993.
5. Nominated for University Teaching Award, 1992.

### **Courses Taught at F.S.U.**

1. COP 4710–Databases (first time offered)
2. COP 5710–Introduction to Database Systems (first time offered)
3. CIS 4931–Programming in Java (first time offered)
4. CGS 3062–Computers and Society (first time offered)
5. CIS 3931–Java Programming (first time offered)
6. COP 4020–Programming Languages (first time offered)
7. COP 4540–File Organization and Databases
8. COP 4530–Design and Analysis of Data Structures
9. COP 4604–Software Systems (first time offered)
10. COP 4631–Software Engineering with Ada (first time offered)
11. COP 4610–Introduction to Operating Systems (first time offered)
12. COP 5555–Programming Language Foundations
13. COP 5632–Software Engineering (first time offered)
14. CIS 5934–Compiler Design
15. CIS 5934–Vector and Parallel Computing (first time offered)
16. CIS 5934–Programming Languages and Programming Environments (first time offered)
17. CIS 4934–User Interface Development with C++ (first time offered)
18. COP 5610–Operating Systems
19. CDA 5105–Computer Architecture

### **Courses Developed at F.S.U.**

1. COP 5632–Software Engineering
2. COP 4604–Software Systems
3. COC 3400–Computers and Society
4. COP 4502–Programming Languages
5. COP 4540–File Organization and Databases
6. COP 4710–Databases
7. COP 5710–Introduction to Database Systems
8. CIS 4931–Programming in Java

9. COP 4610—Introduction to Operating Systems
10. CIS 5934—Vector and Parallel Computing
11. COP 4631—Software Engineering with Ada
12. CIS 5934—Programming Languages and Programming Environments
13. CDA 5105—Computer Architecture
14. CIS 4934—User Interface Development with C++

## **Service**

### **Membership in University and Professional Committees**

1. Member, FSU Council for Instruction, 1999–.
2. Chairman, FSU Campus Networking Committee, 1999–.
3. Member, Steering Committee for the Hawaii International Conference on System Sciences, 1999–2000.
4. Lecture on the Year 2000 Problem, Florida State University Center for Professional Development Lunch and Learn Series, November, 1999.
5. Lecture on the Year 2000 Problem, Monticello Kiwanis Club, February, 1998.
6. Lecture on the Year 2000 Problem, Bainbridge Rotary Club, November, 1998.
7. Member, President's Committee on Excellence in Undergraduate Education, 1997–.
8. Reviewer, University Committee on Faculty Research and Scholarship, 1997–1998.
9. Member, College of Arts and Sciences Teaching Fellowships and Dissertation Fellowships Committee, 1997–1998.
10. Member, University Committee on Sabbaticals, 1995–1997.
11. Member, Computational Science and Engineering Executive Committee, 1995–.
12. Member, Steering Committee for the Hawaii International Conference on System Sciences, 1994–1997.
13. Advisor, ACM Student Chapter, 1991–1993.
14. Member, University Promotion and Tenure Committee, 1991–1992.
15. Member, College of Arts and Sciences Promotion and Tenure Committee, 1991–1992.
16. Chairperson, Natural Science Area Promotion, Tenure and Doctoral Directive Status Committee, 1991–1992.
17. Member, College of Arts and Sciences, Science Area Promotion and Tenure Committee, 1990–1992.
18. Member, University Patent Policy Committee, 1990–present.
19. Member, SCRI Facilities Committee, 1988–1990.

20. Regional Science Fair Judge, 1988, 1990.
21. (with T.P. Baker) Designed, configured, purchased and installed equipment for new Undergraduate Computing Lab., 1986.
22. Proposal to support the development of an Undergraduate Computer Laboratory, Phase I. submitted in September, 1986, to Vice President Turnbull and Dean Baum. Funded for \$195,600.
23. Member of the FSUCC Supercomputer Allocation Committee, 1985–1990.
24. Acting Chairman, Department of Computer Science, November, 1984–August, 1985.
25. Member of the Ad Hoc Committee for FSUCC Mainframe Study. 1985
26. Member of the Search Committee for Deputy to Associate Vice-President Gene Sherron, 1985.
27. Member of SCRI Local Steering Committee, 1984–1985.
28. Member of the Area MAA Committee, 1983–1984.
29. Department of Mathematics and Computer Science, Florida State University, Tallahassee, Florida, Curriculum Committee Secretary.
30. Department of Mathematics and Computer Science, Computer Science Division, Florida State University, Tallahassee, Florida, Ph.D. Preliminary Exam Administrator, 1981–1982.
31. Third Hemisphere Colloquium, Florida State University, member of organizing committee, 1983.
32. Department of Mathematics and Computer Science, Florida State University, Tallahassee, Florida, member of the Curriculum Committee, 1982–1983.
33. “Proposal for Authorization to Implement a New Program,” submitted to the Florida Board of Regents to offer degrees of Bachelor of Science, Bachelor of Arts, Master of Science, Master of Arts and Doctor of Philosophy in Computer Science, January, 1983.

## **Administrative**

1. Member, CS Department Faculty Recruiting Committee, 2002–.
2. Member, CS Department PhD Portfolio Evaluation Committee, 2002–.
3. Chairman, CS Department CNSA/SE Administration Committee, 2000–2001.
4. Chairman, CS Department Faculty Evaluation Committee, 1999–2000.
5. Member, CS Department Curriculum Committee, 1994–.
6. Chairman, CS Department Faculty Evaluation Committee, 1992.
7. Faculty Advisor, Student Chapter of the Association for Computing Machinery, 1991–1993.
8. Chairman, CS Department Committee on the Panama City Campus, 1989–1990.
9. Member, CS Department Financial Aid Committee, 1988–1990.
10. Member, CS Department Graduate Admissions Committee, 1988–1989.
11. Chairman, CS Department Financial Aid Committee, 1987–1988.

12. Chairman, CS Department Graduate Admissions Committee 1987–1988.
13. Member, Computer Science Department Faculty Evaluation Committee. 1993–1994.
14. Member, Computer Science Department Faculty Evaluation Committee. 1987–1992.
15. Member, Computer Science Department Faculty Evaluation Committee. 1984–1985.
16. Chairman, Equipment Committee, Department of Computer Science (Purchased a large-scale mini and microcomputer system to provide a research environment for the new Computer Science Department, and designed and purchased equipment for Undergraduate computer lab), 1984–1987.
17. Acting Chairman, Department of Computer Science, November, 1984–August, 1985.

### **Membership in Professional Associations**

1. Association for Computing Machinery
2. ACM Special Interest Group on Management of Data
3. ACM Special Interest Group on Applied Computing
4. ACM Special Interest Group on Programming Languages
5. IEEE Computer Society

### **Reviews and Refereeing**

1. Dept of Energy Site review of Earth Systems Grid
2. Journal of Computer and Systems Sciences
3. National Science Foundation
4. IEEE Software
5. IEEE Computer
6. National Computer Conference
7. IEEE Transactions on Software Engineering
8. Department of Energy, Small Business Innovative Research program, 1986–1988
9. International Conference on Parallel Processing, 1988–1990.
10. Supercomputing 88
11. PARBASE–90: International Conference on Databases, Parallel Architectures, and their Applications, 1989.
12. 1990 International Conference on Parallel Processing, 1990.
13. Prentice-Hall, Inc., 1990.
14. Addison-Wesley, Inc., 1990.
15. Hawaii International Conference on System Sciences, 1988–1997.

16. Hawaii International Conference on System Sciences, Best Paper Award Review Committee, 1995–1997.