NAME: Richard F. Sincovec

ADDRESS: 1700 Cedar Crest Drive
                   Manhattan, Kansas 66502

POSITION: Associate Professor
                   Computer Science Department
                   Kansas State University
                   Manhattan, Kansas 66506

TELEPHONE: Office (913) 532-6350   Home (913) 539-5735

EDUCATION: 1964 B.S.   Applied Mathematics, University of Colorado
                   1967 M.S.   Applied Mathematics, Iowa State University
                   1968 Ph.D.   Applied Mathematics, Iowa State University
                   Professional Training:
                     Reservoir Engineering School, Esso Production Research
                        Company, 6 weeks, 1969
                     Elements of Reservoir Simulation, University of Texas,
                        1 week, 1969

PROFESSIONAL
EXPERIENCE: EMPLOYMENT

                   1974 - present   Current Position
                   1970 - 1974   Asst. Professor Computer Science and
                                     Mathematics - KSU
                   1971 - 1972   Mathematician Lawrence Livermore
                                     Laboratories (Summers)
                   1968 - 1970   Senior Research Mathematician, Esso
                                     Production Research Co.
                   1966 - 1968   Graduate Research Asst., Ames Laboratory
                                     Ames, Iowa
                   1964 - 1968   Graduate Teaching Asst., Iowa State
                                     University
                   1963 - 1965   Engineer E.I. duPont de Nemours Co.
                                     (summer)

                   CONSULTANT
                   Lawrence Livermore Laboratory, Livermore, CA.

                   GRANTS
                   KSU Bureau of General Research Grant - Fiscal year 1970-
                      71, $775.
                   KSU Bureau of General Research Grant - Fiscal year 1971-
                      72, $1000.
                   American Chemical Society - Petroleum Research Fund Grant
                      Sept. 1, 1971-Aug. 31, 1974, $7500.

KSU Bureau of General Research Grant - Fiscal year
 1974-75, $750.
KSU Bureau of General Research Grant - Fiscal year 1975-
 76, $900.

REVIEWER
Journal of Computational Physics
Journal of the Society of Petroleum Engineers
S.I.A.M. Journal on Numerical Analysis
American Chemical Society, Petroleum Research
 Fund, Research Proposals
National Science Foundation

Numerous seminars on numerical techniques for solving
 differential equations and numerical linear algebra.

AWARDS
Biographical listing in American Men and Women of Science

HONORARY
PROFESSIONAL
SOCIETIES:

Society for Industrial and Applied Mathematics (S.I.A.M.)
Association for Computing Machinery (A.C.M.)
 Special Interest Group on Numerical Mathematics (SIGNUM)
Society of Petroleum Engineers of A.I.M.E.
Sigma Tau
Phi Theta Kappa

RESEARCH
INTERESTS:

Numerical Analysis
 Ordinary Differential Equations, Partial Differential
 Equations, Linear Algebra, Spline Functions, Algorithms,
 and Software.
Mathematical Optimization Techniques
Petroleum Reservoir Simulation
Atmospheric Simulation

PERSONAL DATA:

Date and Place of Birth: July 14, 1942, Pueblo, Colorado
Marital Status: Married: 2 childred
Clearance: "Q" clearance (A.E.C. File No. CA-38488)
 granted June, 1971.

PUBLICATIONS.

"Generalized Collocation Methods for Time Dependent
Nonlinear Boundary Value Problems," SPE 5726, submitted
to Society of Petroleum Engineers Journal, to be presented
at Symposium on Numerical Simulation of Reservoir
Performance, Los Angeles, Feb. 19-20, 1976.

"A Stable Difference Scheme for the Solution of Hyper-
bolic Equations Using the Method of Lines," (with J.C.
Heydweiller), to be submitted to Journals of Computational
Physics.

"On the Relative Efficiency of Higher Order Collocation Methods for Solving Two-Point Boundary Value Problems," submitted to SIAM Journal on Numerical Analysis.

"Generalized Software for Partial Differential Equations," (with N.K. Madsen) UCRL-77062, Lawrence Livermore Laboratory, Livermore, CA, July, 1975. Presented at AIChE 80th National Meeting, Boston, MA, Sept. 7-10, 1975.

"PDEPACK: A New Tool for Simulation," (with N.K. Madsen). Proceedings of the 1975 Summer Computer Simulation Conference, San Francisco, California, July, 1975.

"PDEONE, Solutions of Systems of Partial Differential Equations," (with N.K. Madsen) ACM Transactions on Mathematical Software, Vol. 1, 1975, pp. 261-263.

"Software for Nonlinear Partial Differential Equations," (with N.K. Madsen) ACM Transactions on Mathematical Software, Vol. 1, 1975, pp. 232-260.

"Numerical Reservoir Simulation Using an Ordinary Differential Equations," Society of Petroleum Engineers Journal, June, 1975, pp. 255-264.

"The Numerical Solution of Nonlinear Partial Differential Equations," (with N.K. Madsen), Computational Methods in Nonlinear Mechanics, Texas Institute for Computational Mechanics, 1974, pp. 371-380.

"Algorithm: Block Tridiagonal Linear Systems Solver," submitted to ACM Transactions on Mathematical Software.

"The Numerical Method of Lines for the Solution of Nonlinear Partial Differential Equations," (with N.K. Madsen) UCRL-75142, Lawrence Livermore Laboratory, University of California, September, 1973.

"Spline Function Collocation Methods for Linear Two-Point Boundary Value Problems" (with E.T.Y. Lee), Bulletin of the Institute of Mathematics Academia Sinica, June, 1973.

"Comparison of Hindmarsh's Program GEARA with Shampine's Program DE/STEP," NSM Technical Memorandum No. 73-4, Lawrence Livermore Laboratory, May, 1973.

"Strongly Implicit Procedure (SIP) in Two-Dimensions and m Components (Phases)," NSM Technical Memorandum No. 73-3, Lawrence Livermore Laboratory, University of California, January, 1973.

"On the Solution of the Equations Arising from Collocation with Cubic B-Splines, Mathematics of Computation, October, 1972.

"Some Projection Methods in Atmospheric Simulation," UCID-16186, Lawrence Livermore Laboratory, University of California, Livermore, California, August 1972.

"Eispack User's Guide," (with R.P. Dickinson, Jr., F.N. Fritsch, and R.F. Hausman, Jr.), UCID-30077, Lawrence Livermore Laboratory, University of California, August, 1972.

"Cubic Spline Collocation Method for Nonlinear Second-Order Boundary Value Problems," UCRL-73370, Lawrence Livermore Laboratory, August, 1971.

"Use of Cliches to Simplify IO Coding," Research Memorandum No. 71-5 (with R.F. Hausman, Jr.), Lawrence Livermore Laboratory, July, 1971.

Numerical Linear Algebra, (book), Lawrence Livermore Laboratory, 1971.

"The Application of Galerkin Methods to Reservoir Simulation – Final Report," Research Report, Esso Production Research Company, 1970.

"The Treatment of Wells in Galerkin Methods," Research Report, Esso Production Research Company, 1970.

"Sensitivity Analysis of Methods for Evaluating Matrix Elements Arising in Galerkin Techniques," Research Report, Esso Production Research Company, 1970.

"Numerical Methods of Evaluating Matrix Elements Arising in Galerkin Techniques" (with R.S. Randolph), Research Report, Esso Production Research Company, 1970.

"Development of a 1D-2∅ Incompressible Reservoir Simulation by a Total Galerkin-Spline Technique," Research Report, Esso Production Research Company, 1970.

"Precision Calculation of Eigenvectors by Norm Reduction," (with R.J. Lambert), Ames Laboratory Research Report, 1970.

"Spline Function Collocation Methods," (with E.T.Y. Lee), Research Report, Esso Production Research Company, 1969.

"Derivation of Matrix Equations for Reservoir Simulation by Galerkin's Method," Research Report, Esso Production Research Company, 1969.

"1D-2∅ Incompressible Reservoir Simulation," Research Report, Esso Production Research Company, 1969.

"Cubic Spline Functions," Research Report, Esso Production Research Company, 1969.

"Algorithms for Determining Eigenvectors by Norm Reduction," Ph.D. Thesis, Iowa State University, 1968.

NAME: Myron A. Calhoun

ADDRESS: 2001 Dunbar
Manhattan, KS 66502

POSITION: Assistant Professor
Department of Computer Science
Kansas State University
Manhattan, KS 66506

TELEPHONE: office (913) 532-6350   home (913) 537-9661

EDUCATION:
Year	Degree	Field	Institution
1967	PhD	Electrical Engineering	Arizona State University, Tempe
1964	MS	Electrical Engineering	Colorado State University, Ft. Collins
1963	BS	Electrical Engineering	University of Kansas, Lawrence
1961			Troy State Teachers College, Troy, Alabama
1961	AA		Graceland College, Lamoni, Iowa
1959			Pensacola Junior College, Pensacola, Florida

PROFESSIONAL EXPERIENCE: Employment

1974 - Present Current Position
1971 - 1974   Asst. Professor of Electrical Engr. and Computer Science, KSU
1967 - 1971   M.T.S., Fairchild R & D Laboratory, Palo Alto, CA
1969 - 1971   Instructor, Santa Clara County Adult Ed. System, Santa Clara, CA
1966 Summer   Engineer, E.G. & G. Inc., Las Vegas, Nevada
1963 Summer   M.T.S. Bell Labs, Holmdel, NJ

Consultant

1973 Brooks Research Mfg., Kansas City, Mo.

Conferee

1968 IEEE Region Six, Portland Oregon
1971, 1972 Spring Joint Computer Conference
1973 High-Level Language Computer Architecture (Symposium)
1973 Third Annual Microprogramming Workshop, Phoenix, AZ
1974 Third Texas Conference on Computer Systems, Austin, Texas
1974 MAE-CON, Kansas City
1975 Missouri Symposium on Advanced Automation
1975 Sixth Annual Pittsburg Modeling and Simulation Conference

Reviewer

1969, 70, 71 Fall Joint Computer Conference
1973 Symposium, High-Level Language Computer Architectures
1974 Science Research Asso., Palo Alto, CA

Grants

1971   "Investigation of man-machine communication via programmable tone generators attached to a computer," ($300) Bureau of General Research.

1971   "Interdepartmental investigation of music generation by computer," ($1,700) Bureau of General Research.

1973   "Digital Computer Architecture Laboratory," ($1,340), Bureau of General Research.

1973   "Electronic Control Unit for an Audio Cassette Recorder," ($675) Bureau of General Research.

Awards

1964   NASA Traineeship, Arizona State University

1963   NSF Graduate Fellowship, Colorado State University

1963   Graduate "With Highest Distinction" from University of Kansas

1962   RCA Scholarship, University of Kansas

1961   BOEING Scholarship, University of Kansas

1961   GOLD SEAL for scholarship, Graceland College

1959   National Merit Finalist

1959   Valedictorian, Milton High School, Milton, FL

Appointments

1974   Graduate Faculty Member, Kansas State University

HONORARY PROFESSIONAL SOCIETIES:

IEEE, the Computer Group, and the Tech. Committee on Comp. Arch. Standing Technical Program Committee of COMPCON
Tau Beta Pi

RESEARCH FIELD:

Hardware design and implementation of both dedicated-application, non-programmable digital systems and small- and large-scale general-purpose, programmable computers (ranging from a smaller-than-mini binary computer to a highly-sophisticated multi-programming, multi-processing digital computer).

Programming of computer system software, Management Information Systems, and user-oriented application programs on various computers, including a test-and-control language for debugging new computer hardware interfaced to an existing computer.

Other Areas of Interest

Smoothing of Hardware-Firmware-Software-Programming boundaries.
Machine-independent software and/or languages.
Computer-aided design of digital systems.

PERSONAL
DATA: Date of Birth – January 31, 1941
           Marital Status – Married
           Family – 3 children
           Hobbies – Amateur Radio (WØPBV), beekeeping, fishing, farming
           Citizenship – USA
           Clearances – NASA "Q" 1966

Publications

1. "A System for Digital Design and Simulation," with J. Scott Vance. Sixth Annual Pittsburgh Modeling and Simulation Conference, April 24, 1975.

2. "A Design Automation System and Its Uses" (expanded version of earlier presentation) Missouri Symposium on Advanced Automation, April 15, 1975, Columbia, MO.

3. "The (Semi) Automatic Testing Languages for SYMBØL," Missouri Symposium on Advanced Automation, April 15, 1975, Columbia, MO.

4. "A Design Automation System and Its Uses," Proc. MAE-CON, Kansas City, MO, November, 1974.

5. "Computer Instrumentation of SYMBOL," Proc. Third Texas Conf. on Computing Systems, Austin, TX, November, 1974.

6. "SYMBOL Hardware Debugging Facilities," Proc. SJCC, Atlantic City, NJ, May, 1972.

7. "SYMBOL Large Experimental System Exploring Major Hardware Replacement of Software," with others, Proc. SJCC, Atlantic City, NJ, May, 1971.

8. "Meta-Assembly Made Easy," IEEE Region Six Conf., Portland, OR, May, 1968.

9. Machine-independent Assemblers for Computing Systems, Ph.D. Dissertation, Arizona State University, Tempe, AZ, July, 1967.

10. "Cauer Synthesis by Digital Computer," Proc. GET Conf., Scottsdale, AZ, April, 1965. Also presented at IEEE Region Six Student Paper Contest, Graduate Division (shared first place with the other entry)!

11. "On Using Your Head," The Slide Rule (Engineering student publication), Colorado State University, Ft. Collins, CO, January, 1964.

12. "Construction and Testing of IOD Translation Store Current Servo," Case 39873, Bell Telephone Laboratories, Holmdel, NJ, September, 1963.

13. "A Pseudo-Pulse Emission for the Amateur Bands Below 2.3 GHz," presented at Kansas City Chapter of the IEEE and in the IEEE Student Paper Contest, Undergraduate Division (won first place at both presentations), 1963.

14. "Electricity as It Affects Our Modern Homes and Farms," presented 4 times in the 4-H Club Public Speaking Contest (won First Place in the Florida Statewide competition--there was no nationwide competition, unfortunately!), 1955.