

Vita
July 2007

I. PERSONAL DATA

Name: Derrick K. Rollins, Sr.
Address: 1033 Sweeney (ChE) 294-5516
304D Snedecor (Stat) 294-8192
4811 Idaho Circle, Ames, Iowa 50014 (Home) (515) 292-8773
Birthdate/Place: 5-29-56/Kansas City, Mo. Citizenship: USA
Original Date of Employment: 8-1-90 Graduate Faculty Status: A
Professional Registration: None

II. EDUCATION

Ph.D. The Ohio State University (chemical engineering) 1990
M.S. The Ohio State University (statistics) 1989
M.S. The Ohio State University (chemical engineering) 1987
B.S. University of Kansas (chemical engineering) 1979

III. ACADEMIC EXPERIENCE

Professor, Iowa State University 2007-
Half time appointment in the Department of Statistics and
half time appointment in the Department of Chemical Engineering
Associate Professor, Iowa State University 1995-2007
Assistant Professor, Iowa State University 1990-1995

IV. INDUSTRIAL AND OTHER NON-ACADEMIC EXPERIENCE

May-Aug 2000 Faculty Intern for the 3M Company in St. Paul, Minnesota
1992 3M Company Faculty Intern From July 1 - Aug 15, 1992
1979-1986 E. I. DU PONT at these locations:
1985-1986 KAPTON PLANT - Circleville, Ohio
1983-1985 SMALL ARMS AMMUNITION PLANT - Lake City, Mo.
1979-1983 CELLOPHANE FILM PLANT - Tecumseh, Kansas

V. HONORS AND AWARDS

1. ISU Engineering Student Council Leadership Award, “for significant and lasting contributions to the success of Iowa State engineering students” (2007).
2. VEISHEA Nomination as Faculty of the Year for the College of Engineering (2007).
3. ISU Louis Thompson Distinguished Undergraduate Teaching Award (2007).
4. ISU AIChE Student Chapter, "Come on in, it's not my office hours," award (2007).
5. ISU AIChE Student Chapter, "Favorite Faculty Member" award (2007).
6. ISU Engineering Student Council Leadership Award, “for significant and lasting contributions to the success of Iowa State engineering students” (2006).
7. ISU AIChE Student Chapter, "Come on in, it's not my office hours," award (2006).
8. Outstanding Faculty Member, by Interfraternity Council, "Selected as one of ISU's most outstanding faculty members" Fall 2006
9. Outstanding Faculty Member, by Interfraternity Council, “Selected as one of ISU’s most outstanding faculty members” Fall 2005.
10. ISU recipient of the 2005 Regents Faculty Excellence Award given by the Board of Regents, State of Iowa.
11. ISU Engineers’ Week 2004 Outstanding Professor in Chemical Engineering.
12. ISU Student Chapter, The 2004 “You Make this Class Bearable Award,” “In appreciation for his effort in undergraduate instruction, as chosen by his student.”
13. 2003 ISU Student Affairs Certificate of Appreciation in Recognition of Service To Students and Support of Division of Student Affairs.
14. ISU Student Chapter, The 2003 “You Make this Class Bearable Award,” “In appreciation for his effort in undergraduate instruction, as chosen by his student.”
15. 2003 Outstanding Faculty Member, by Interfraternity Council, “Selected as one of ISU’s most outstanding faculty members” Fall 2003.
16. 2003 Outstanding Faculty Member, by Interfraternity Council, “Selected as one of ISU’s most outstanding faculty members” Spring 2003.
17. 2003 Kansas State Multicultural Engineering Program Appreciation Plaque, “In recognition of your accomplishments in engineering and commitment to promote the academic and intellectual development of the multicultural engineering students at Kansas State University.
18. VEISHEA 2001 Nomination as an Outstanding Faculty Member at Iowa State University.
19. 2001 NAACP Vanguard Award.
20. 2000 Iowa State University Presidential Service Award.
21. 1997 Featured in ISU commercial, “Hero.”
22. 1996 American Association for the Advancement of Science (AAAS) Mentor Award.
23. 1995-96 ISU Program for Women in Science and Engineering Anna Pate Mentoring Award.
24. Featured as the June Scientist in AETna's Calendar of African American History with the 1996 theme as African Americans in Science.
25. Featured in “Revlon Presents African-American Heritage -- A Living Legend” brochure for 1996 Black History Month.
26. Engineering Student Council Outstanding Engineering Professorship in Chemical Engineering, 1995-96.
27. LAMPOS Professor of the Year Award, LAS College Honor Society, 1995-96.

28. Honorary Member Golden Key National Honor Society -- elected 1994.
29. 1994 National Science Foundation (NSF) Presidential Faculty Fellows (PFF) Award.
30. 1994 ISU Foundation Award for Early Achievement in Teaching.
31. 3M Non-tenured Faculty Award (1993, 1994 and 1995).
32. Award Winning Paper -- 62nd Annual National Technical Association Conference Minority Technical Student Symposium, 1990.

VI. ACADEMIC AREAS OF SPECIALIZATION

Teaching: STAT 231 Probability and Statistical Inference for Engineers, STAT 305 Engineering Statistics & Chemical Engineering Statistics, STAT 401, Statistical Methods for Research Workers, ChE 210, Material and Energy Balances, ChE 421 Process Dynamics and Control, ChE 592x, Advanced Process Control, ChE 692x, Advanced Statistical Modeling in Chemical Engineering

Research: Predictive Modeling and Control of Chemical Processes
 Data Reconciliation/Gross Error Detection
 Statistical Process Control/Multivariate Statistical Process Control
 Artificial Neural Networks
 On-Line Process Control
 Human Thermoregulatory System Identification
 Powder Mixtures -- Assessment and Stochastic Modeling of Mixing
 Commercial Grain Dryer Modeling for Moisture Control
 Micro Array Inference and Analysis (bio and material informatics)
 Combi-Science and Engineering
 System Identification of Type II Diabetics
 Chemical Vapor Infiltration (CVI)

VII. GRANTS AND CONTRACTS

Principal Investigator for the following grants:

1. ISU P&S Grant (with A. D. Rollins) -- Science Bound's Learn and Earn Program and Its Impact on Student Success and Program Retention (\$2,000), 2003.
2. Science Bound Summer Enhancement Program in Math and Literature For Entering Ninth Grade Students (\$12,000), 2001.
3. 3M – Non-linear Multivariate ARMAX Modeling of Critical Dynamic 3M Processes Using Plant Data (\$40,000), 2001-2002.
4. 3M -- Application of Multivariate SPC to a 3M Knoxville Coating Process (\$33,229), 1998-1999.
5. Fisher-Rosemount/R.S. Stover/ISU Coalition -- DeltaV DCS Process Control System (\$100,000), 1998.

6. Grain Processing -- Adaptive Control for Improved Drying (\$80,430), 1995-1996.
7. LAS Grant for Professional Development (\$2500) 1994-95, 1995-96.
8. NSF Presidential Faculty Fellows (PFF) Award (\$500,000) 1994-1999.
9. NSF Minority Research Initiation Grant -- Statistical Gross Error Detection for Dynamic Processes (\$168,829) 1993-1996.
10. Fisher/R.S. Stover/ISU Coalition -- DCS Process Control Applications Laboratory (\$100,000), 1993.
11. NASA Faculty Award for Research (FAR) -- Statistical Sensor Validation in Life Support Systems (\$221,897), 1993-1997.
12. 3M Non-tenured Faculty Award -- Improving Powder Mixture Homogeneity (\$45,000), 1993-1995.
13. 3M -- Statistical Methods to Enhance Neural Networks (\$40,000), 1993-1994.
14. Grain Processing -- Adaptive Control for Improved Drying (\$73,000), 1993-1994.
15. University Research Grant (Fall 1990 Competition, \$15,000), 1991.
16. 3M Manufacturing Technology Education Initiative Grant (\$8,500), 1991.
17. Faculty Incentive Grant for LASRI Summer Research Support, 1991 ASQC Statistics Division Grant (1991 Gordon Conference).
18. Shell Unrestrictive Grant for Research in Data Reconciliation and Gross Error Detection (\$5,000), 1991

VIII. TECHNICAL PUBLICATIONS

Refereed Articles in Review or Revision

1. Chin, S. and D. K. Rollins, "Accurate Model Identification for Non-Invertible MIMO Sandwich Block-Oriented Processes," *Industrial and Engineering Chemistry Research* (in review).
2. Zhai, D., H. Wu, and D. K. Rollins, "Parameter Estimation for the Wiener Dynamic System With Unmeasured Continuous-Time Correlated Stochastic Disturbances," submitted to *Industrial and Engineering Chemistry Research* (in revision).
3. Rollins, D. K., J. Kleinedler, K. Flis, A. Strohhahn, L. Boland, M. Murphy, and W. E. Franke, "Extensive Noninvasive Exogenous Wiener Simulation Modeling of Glucose for Type 2 Diabetic Patients under Free Living Conditions," *Journal of Applied Physiology* (in review).
4. Rollins, D. K., D. J. Rollins, A. Teh, R. Grier, and A. D. Jones, "Kinetic Modeling of Pyrocarbon Reaction Data From Elementary Reaction Networks," in preparation for submission to *Composite Science and Technology*.

Refereed Articles Published or Accepted for Publication

1. Rollins, D. K., D. J. Rollins and A. D. Jones, "Spatial-Temporal Semi-empirical Dynamic Modeling of Thermal Gradient CVI Processes," *Chemical Engineering Research and Design* (in press).

2. Rollins, D. K. and G. L. Larson, "Estimating a Minimum Set of Physically-Based Dynamic Parameters to Enhance Statistical Inference in Block-Oriented Modeling," *Computers and Chemical Engineering* (2007), doi:10.1016/j.compchemeng.2007.03.010.
3. Zhai, D., D. K. Rollins, and N. Bhandari, "Block-oriented Continuous-time Modeling of Nonlinear Systems under Sinusoidal Inputs," *the International Journal of Modelling and Simulation*, (in press).
4. Hardjasamudra, A., D. K. Rollins, N. Bhandari, and S. Chin, "Optimal Experimental Design for Wiener Systems," *Chemical Engineering Communications* **194**, 656-666 (2007).
5. Rollins, D. K., D. Zhai, A. L. Joe, J. W. Guidarelli, and R. Gonzalez, "A Novel Data Mining Method to Identify Assay-Specific Signatures in Functional Genomic Studies," *BMC Bioinformatics*, **7** 377 (2006).
6. Hulting, S., D. K. Rollins, and N. Bhandari, "Optimal Experimental Design for Human Thermoregulatory System Identification," *Chemical Engineering Research and Design* **84**(A11), 1-10 (2006).
7. Zhai, D., H. Wu., N. Bhandari, and D. K. Rollins, "Continuous-Time Hammerstein and Wiener Modeling Under Second Order Static Nonlinearity for Periodic Process Signals," *Computers & Chemical Engineering*, **31**, 1-12 (2006).
8. Rollins, D. K., L. Pacheco and N. Bhandari, "A Quantitative Measure to Evaluate Competing Designs for Non-linear Dynamic Process Identification," *the Canadian Journal of Chemical Engineering*, **84**(4): 459-468 (2006).
9. Rollins, D. K., N. Bhandari, S. Chin, T. M. Junge, and K. M. Roosa, "Optimal Deterministic Transfer Function Modeling In the Presence of Serially Correlated Noise," *Chemical Engineering Research and Design*, **84**(A1), 9-21 (2006).
10. Rollins, D. K., N. Bhandari, and S. Hulting, "Continuous-time Block-oriented Predictive Modeling of the Human Thermoregulatory System," *Chemical Engineering Science*, **61**, 1516-1527 (2006).
11. Devanathan, S., S. B. Vardeman and D. K. Rollins, "Likelihood and Bayesian Methods for Accurate Identification of Measurement Biases in Pseudo Steady-State Processes," *Chemical Engineering Research and Design*, **83**(A12), 1391-1398 (2005).
12. Rollins, D. K., N. Bhandari, N. M. Matos, C. Swee-teng, and Stephen W. Mohn, "Continuous-time Dynamic Exogenous Modeling from Plant Data," *Proceedings of the Society of Plastics Engineers 63rd Annual Technical Conference*, May 1-5, 2005, Boston Massachusetts, 2005.
13. Chin, S, N. Bhandari, and D. K. Rollins, "An Unrestricted Algorithm for Accurate Prediction of MIMO Wiener Processes," *Industrial and Engineering Chemistry Research*, **43**, pp. 7065-7074 (2004).
14. Zhai, D., D.K. Rollins, Sr., and N. Bhandari, "Compact Block-oriented Continuous-time Dynamic Modeling for Nonlinear Systems under Sinusoidal Input Sequences," *Proceedings of the IASTED Intelligent Systems and Control Conference*, Honolulu, Hawaii, pp. 295-300 (2004).
15. Rollins, D. K. and N. Bhandari, "Constrained MIMO Dynamic Discrete-Time Modeling Exploiting Optimal Experimental Design," *Journal of Process Control*, **14**(6), pp. 671-683 (2004).
16. Bhandari, N. and D. K. Rollins, "Continuous-time Hammerstein Nonlinear Modeling

- Applied to Distillation,” *AIChE Journal*, **50**(2), pp. 530-533 (2004).
17. Bhandari, N. and D. K. Rollins, “A Continuous-Time MIMO Wiener Modeling Method,” *Industrial and Engineering Chemistry Research*, **42**(22), pp. 5583-5595 (2003).
 18. Rollins, D. K., N. Bhandari and L. Pacheco, “Experimental Designs That Maximize Information For Nonlinear Dynamic Processes,” *Proceedings of FOCAPO*, Coral Springs, Florida, pp. 463-466, January 2003.
 19. Bhandari, N. and D. K. Rollins, “Continuous-time modeling versus discrete-time modeling for block-oriented nonlinear dynamic systems.” *Proceedings of International Symposium on Process Systems Engineering and Control*, Bombay, India, January 2003.
 20. Rollins, D. K., N. Bhandari, N., A. M. Bassily, G. M. Colver and S. Chin, “A Continuous-Time Nonlinear Dynamic Predictive Modeling Method For Hammerstein Processes,” *Industrial and Engineering Chemistry Research*, **42**(4), pp. 861-872 (2003).
 21. Rollins, D. K. and S. Devanathan, "Measurement Bias Detection in Linear Dynamic Systems," *Computers & Chemical Engineering*, **26**(9), pp. 1201-1211, October (2002).
 22. Rollins, D. K., “A Continuous-Time Hammerstein Approach Working With Statistical Experimental Design,” *Proceedings of The Life of a Process Model: From Conception to Action Workshop*, London, England (2002).
 23. Kongsjahju, R. and D. K. Rollins, “Accurate Identification of Biased Measurements Under Serial Correlation,” *ICHEME Transactions Part A – Chemical Engineering Research and Design*, **78**, pp.1010-1017, October (2000).
 24. Devanathan, S., D. K. Rollins and S.B. Vardeman, “A New Approach for Improved Identification of Measurement Bias,” *Computers and Chemical Engineering*, **24**(12), pp. 2755-2764, December (2000).
 25. Rollins, D. K., and N. Bhandari, “Accurate Predictive Modeling of Response Variables Under Dynamic Conditions Without the Use of Past Response Data,” *ISA Transactions -- The Science and Engineering of Measurement and Automation*, **39**, pp. 29-34 (2000).
 26. Chen, Victoria C. P. and D. K. Rollins, "Issues Regarding Artificial Neural Network Modeling for Reactors and Fermenters," *Bioprocess and Biosystems Engineering*, **22**:85 (2000).
 27. Bhandari N., and D. K. Rollins, “Superior Semi-empirical Dynamic Predictive Modeling That Addresses Interactions,” *IASTED, Proceeding of Intelligent Systems and Control*, Santa Barbara, California, pp. 316-321, October, 1999.
 28. Rollins, D. K., M. McNaughton, C.M. Schulze-Hewett, “Accurate Semi-Predictive Modeling of an Underdamped Process,” *ISA Transactions – The Science and Engineering of Measurement and Automation*, **38**, pp. 279-290 (1999).
 29. Chen, V. C. P., M. Melendez, and D. K. Rollins, “The Problem of Too Much Power in a Statistical Hypothesis Test,” *ISA Transactions -- The Science and Engineering of Measurement and Automation*, **37**, pp. 329-336 (1998).
 30. Rollins, D. K., J. M. Liang, and P. Smith "Accurate Simplistic Predictive Modeling of Non-linear Dynamic Processes," *ISA Transactions, The Science and Engineering of Measurement and Automation*, **36**(4), 293 (1998).
 31. Rietz, C. A. and D. K. Rollins, “Implementation of a MPC Technique on a DCS,” *Proceedings of the 1998 American Control Conference*, Invited Paper, pp. 2951-2955.
 32. Kongsjahju, R. and D. K. Rollins, “Enhancement of Gross Error Detection When Data are

- Serially Correlated,” Proceeding of the 1998 FOCAPO meeting, pp. 386-390, July (1998).
33. Walker, J. J. and D. K. Rollins, "Detecting Powder Mixture Segregation for Multicomponent Mixtures," *Chemical Engineering Science*, **53**(4), 651-655 (1998).
 34. Manuell, L., M. Bascuñana, and D. K. Rollins, "Statistical Fault Detection for Automatically Controlled Processes," Proceedings of the ADCHEM '97 International Symposium on Advanced Control of Chemical Processes, pp. 458-463 (1997).
 35. Walker, J. J. and D. K. Rollins, "Detecting Powder Mixture Segregation for Non-Normal Measurement Errors," *Powder Technology*, **92**, 9-15, (1997).
 36. Kuiper, S. D., D. K. Rollins and Victoria C. P. Chen, "Gross Error Detection Strategies When Constraints Are Bilinear," Proceedings of ADCHEM '97 International Symposium on Advanced Control of Chemical Processes, pp. 289-294 (1997).
 37. Liang, J. M., D. K. Rollins, and Victoria C. P. Chen, "A Comparative Study Between Linear Regression and Artificial Neural Networks in Modeling an Industrial Grain Dryer," Proceedings of The International Society for Measurement and Control Conference (ISA/96, Chicago), pp. 235-243, (1996).
 38. Chen, Victoria C. P., Jennifer Heldt, Kelly McGlynn, and Derrick Rollins, "Critical Issues in Data Collection and Conditions When Fitting Predictive Neural Network Models for Dynamic Processes," Proceedings of The International Society for Measurement and Control Conference (ISA/96, Chicago), pp 279-291, (1996).
 39. Garth, A. D. N., Victoria C. P. Chen, Jun Zhu, and D. K. Rollins, "Evaluation of Model Discrimination Techniques in Artificial Neural Networks With Application to Grain Drying," Proceedings of the Artificial Neural Networks in Engineering (ANNIE '96) **6**, pp. 939-950 (1996).
 40. Chen, Victoria C. P. and D. K. Rollins, "Gross Error Detection and Power Analysis for a Real Chemical Process," Proceedings of The International Society for Measurement and Control Conference (ISA/96, Chicago), pp 187-202, (1996).
 41. Rollins, D. K., Y. Cheng, and Victoria C. P. Chen, "Detection of Equipment Faults in Automatically Controlled Processes," *AIChE J.*, **42**, 642 (1996).
 42. Rollins, D. K., D. L. Faust, and D. L. Jabas, "A Superior Approach to Indices in Determining Mixture Segregation," *Powder Technology*, **84**, 277 (1995).
 43. Rollins, D. K., Y. Cheng and S. Devanathan, "Intelligent Selection of Hypothesis Tests to Enhance Gross Error Identification," *Computers & Chemical Engineering Journal*, **20**(5), 517-530 (1996).
 44. Rollins, D. K., J. F. Davis, and Jennifer Walker "Application of Multiresponse Estimation to a Wetted Wall Column Model," *AIChE J.*, October, **41**(10), 2327 (1995).
 45. Sofekun, O. A., D. K. Rollins and L. K. Doraiswamy, "A Random Particle Model for Catalyst Dilution," *Chemical Engineering Science*, **49**(16), 2611 (1994).
 46. Rollins, D. K. and J. F. Davis, "Gross Error Detection When Variance-Covariance Matrices Are Unknown," *AIChE J.*, **39**(8), 1335 (1993).
 47. Rollins, D. K., and S. Devanathan, "Unbiased Estimation in Dynamic Data Reconciliation," *AIChE J.*, **39**, 1330 (1993).
 48. Rollins, D. K., and S. Devanathan, "Computational Issues in Gross Error Detection and Data Reconciliation," Proc. of FOCAPO Meeting, July, 1993.
 49. Rollins, D. K. and J. F. Davis, "Unbiased Estimation of Gross Errors In Process

- Measurements," *AIChE J.*, **38**, 563 (1992).
50. Rollins, D. K., and S. D. Roelfs, "Gross Error Detection When Constraints Are Bilinear," *AIChE J.*, **38**, 1295 (1992).
51. Rollins, D. K. and K. S. Knaebel, "Applicability of Cullinan's Equation for Predicting Liquid Binary Mutual Diffusion Coefficients," *AIChE J.*, **37**, 470 (1991).

Book Chapters

1. Bagajewicz, M. and D. K. Rollins, "Data Reconciliation," Section 5.2 in the *Instrument Engineers' Handbook*, 3rd Edition, Volume 3: "Digital Systems," pp. 691-706 (2002).

Books Reviewed:

1. Rollins, D. K., book review of "Process Dynamics and Control, 2nd Edition" by D. E. Seborg, T. F. Edgar, and D. A. Mellichamp, *Chemical Engineering Education* **41**(1), 57-58 (2007).
2. "Process Dynamics and Control," by D. E. Seborg, T. F. Edgar and D. A. Mellichamp, John Wiley & Sons, Hoboken, NJ (2004) in 2004.
3. "Statistics for Engineers and Scientists," by William Navidi, The McGraw-Hill Company, Burr Ridge, IL in 2004.
4. "Statistics for Engineers and Scientists," by William Navidi, The McGraw-Hill Company, Burr Ridge, IL in 2003.
5. "Statistics for Engineers and Scientists," by William Navidi, The McGraw-Hill Company, Burr Ridge, IL in 2002
6. "Process Systems Analysis and Control," by Coughanowr and LeBlanc, The McGraw-Hill Company, Burr Ridge, IL in 2001.
7. "Modern Industrial Statistics: Design and Control of Quality and Reliability," by R. S. Kenett and S. Zack, Duxbury Press, New York in 1998.
8. "Fundamentals of Industrial Quality Control," by Lawrence Aft, *Technometrics*, **35**(2), in 1993

Non-Refereed

1. Hulting, S., D. K. Rollins, and N. Bhandari, "Accurate Predictive Modeling with Optimal Experimental Design Modeling for Human Thermo-regulatory System." *Proceeding of Topical Conference on Bioinformatics and Functional Genomics*, AIChE Annual Meeting, Indianapolis, IN, November 2002.
2. Rollins, D. K., "Letter to the Editor," *Powder Technology*, **126**(203) 2002.
3. Rollins, D. K. and C.M. Schulze-Hewett, "Choose The Best Feeders," *Chemical Engineering Progress*, pp. 45-47, March (1998).
4. Biechler, A. J., V. C. P. Chen, K. S. McGlynn, and D. K. Rollins, "Important Considerations in Dynamic Predictive Modeling Using Artificial Neural Networks and Other Empirical Modeling Methods," *Proceedings of The 23rd Annual National NOBCCChE Conference*, pp. 43-51, Detroit, April, 1996.

5. Rollins, D. K., D. L. Faust, and D. L. Jabas, "An Evaluation of Statistical Approaches to Assess Mix Segregation," Proceedings of the 1993 Technical Program -- Powders and Bulk Solids Conference and Exhibition, pp. 579 - 588.
6. Rollins, D. K. and S. D. Roelfs, "Application of an Unbiased Estimation Technique When Constraints Are Bilinear," Proceedings of The 19th Annual National NOBCCChE Conference, New Orleans, April, 1992.
7. Davis, J. F., P. R. Prasad, J. K. McDowell, J. R. Whiteley, K. Sravana Kumar, D. K. Rollins, D. R. Myers And M. S. Gandikota, "On-Line Diagnosis Of Process And Manufacturing Operations: The Integration Of Knowledge-Based, Neural Net And Conventional Numeric Approaches," Proceedings Of The Probabilistic Safety Assessment Management, Beverly Hills, CA, 1991.
8. Rollins, D. K. and J. F. Davis, "Gross Error Detection In Chemical Processing Plants: Test Statistics, Power Functions And Confidence Intervals," (Proceedings of The National Technical Association Journal, 1990).

IX. RECENT TECHNICAL PRESENTATIONS

1. Rollins, D. K., "Block-Oriented Exact Solution Technique (BEST)," Seminar: Department of Chemical & Biomolecular Engineering, University of California, Los Angeles, CA, 2006.
2. Rollins, D. K., "A Novel Data Mining Approach," The NSF-IMI CoSMIC International Materials Institute, Des Moines, IA (2006).
3. Teh, A., J. W. Guidarelli and D. K. Rollins, "A Novel Data Mining Method for Combi-Experimental Design in Catalysis," The NSF-IMI CoSMIC International Materials Institute, Ames, IA (2006).
4. Shadiya, O., S. Loveland and D. K. Rollins, "Block-oriented Adaptive Modeling for Time Varying Systems," The Annual Meeting for NOBCCChE, Los Angeles, California (2006).
5. Strohbehn, A. and D. K. Rollins, "Dynamic Non-invasive Blood Glucose Modeling for Type 2 Diabetic Subjects," The Annual Meeting for NOBCCChE, Los Angeles, California (2006).
6. Rollins, D. K. "A Novel Data Mining Method to Identify Assay-Specific Signatures in Functional Genomic Studies," The Annual Meeting for NOBCCChE, Los Angeles, California (2006).
7. Rollins, D. K. and W. J. Rodriguez, "Validation of a Multiple Input, Multiple Output Model of the Human Thermoregulatory System," The AIChE Annual Meeting, San Francisco, California (2006).
8. Chin, S. and D. K. Rollins, "Accurate Model Identification for Non-Invertible MIMO Sandwich Block-Oriented Processes," The AIChE Annual Meeting, San Francisco, California (2006).
9. Rollins, D. K., "Sound Statistical Inference in Engineering and Science," Seminar: Department of Chemical and Biological Engineering, Iowa State University, November, 2006.
10. Rollins, D. K. and S. Loveland, "Continuous-time Block-oriented Adaptive On-line Modeling For Time Varying Systems," AIChE Annual Meeting, Indianapolis, IN, (2005).
11. Rollins, D. K., D. Zhai and R. Gonzalez, "An Improved PCA Approach For Microarray Data

- Analysis,” AIChE Annual Meeting, Indianapolis, IN, (2005).
12. Rollins, D. K. “A Tutorial In System Identification Under Serially Correlated Noise Using Statistically Design Data And Plant Data,” AIChE Spring Meeting, Atlanta, Georgia, (2005).
 13. Rollins, D. K., N. Bhandari, S. W. Mohn, N. M. Matos (speaker), and S. Chin, “Continuous-Time Dynamic Exogenous Modeling from Plant Data,” 2005 Annual Meeting for NOBCCChE, Orlando, Florida.
 14. Timcke, Lanaire (speaker) and D. K. Rollins, “The Role of EVOP in Combinatorial Sciences,” 2005 Annual Meeting for NOBCCChE, Orlando, Florida.
 15. Rollins, D. K. (Speaker), N. Bhandari and S. Hulting, “Continuous-time Block-oriented Predictive Modeling of the Human Thermoregulatory System,” AIChE Annual Meeting, Austin, Texas (2004).
 16. Rollins, D. K., “Beyond ARIMA, Beyond ARMAX,” Seminar, Iowa State University Department of Statistics, October, 2003.
 17. Rollins, D. K., A. Shiue and N. Bhandari, “Excel as a Dynamic Simulation Tool,” AIChE Annual Meeting, paper 343g, San Francisco, CA, November 2003.
 18. Rollins, D. K., “Statistical Preparation and Competency In Chemical Engineering,” AIChE Annual Meeting, paper 351b, San Francisco, CA, November 2003.
 19. M. J. Bagajewicz and D. K. Rollins, “On the Consistency of the Measurement Test and GLR Tests,” AIChE Annual Meeting, paper 435e, San Francisco, CA, November 2003.
 20. Chin, S., N. Bhandari and D. K. Rollins, “A Computationally Efficient Continuous-Time Closed-Form Exact Solution to Hammerstein and Wiener Systems,” AIChE Annual Meeting, paper 459h, San Francisco, CA, November 2003.
 21. Rollins, D. K. and N. Bhandari, “Constraint MIMO Dynamic Discrete-Time Modeling Exploiting Optimal Experimental Design,” AIChE Annual Meeting, paper 493x, San Francisco, CA, November 2003.
 22. Rollins, D. K., “Issues of Experimental Design and Accurate Modeling in Dynamic Block-Oriented Nonlinear Systems,” Seminar, Ohio State Department of Chemical Engineering, May 1, 2003.
 23. Rollins, D. K., “Issues of Experimental Design and Accurate Modeling in Dynamic Block-Oriented Nonlinear Systems,” Seminar, Kansas State College of Engineering, April 17, 2003.
 24. Rollins, D. K., “Statistics -- Getting Beyond Dangerous,” Seminar, Kansas State Department of Chemical Engineering, April 17, 2003.
 25. Rollins, D. K., “Issues of Experimental Design and Accurate Modeling in Dynamic Block-Oriented Nonlinear Systems,” Ruth-Larson Symposium, Iowa State Department of Chemical Engineering, April 10, 2003.
 26. Rollins, D. K., “Issues of Experimental Design and Accurate Modeling in Dynamic Block-Oriented Nonlinear Systems,” Seminar, Florida State Department of Chemical Engineering, March 28, 2003.
 27. Rollins, D. K., “The Probabilistic Modeling of Segregation For Powder Mixtures and of Dispersion of Particles in Fixed Bed Reactors,” Chemical Engineering Department Seminar at The Ohio State University, Columbus, Ohio, May, 2002.
 28. Rollins, D. K. (Speaker) and N. Bhandari, “Continuous-time Identification and Modeling of Non-linear Hammerstein Processes, Presented at the 52nd Canadian Chemical Engineering

- Conference at the Sheraton Vancouver Wall Centre Hotel, October 20-23, 2002.
29. Pacheco, L., N. Bhandari, and D. K. Rollins (Speaker), "A Quantitative Measure To Evaluate Competing Designs For Non-linear Dynamic Process Identification," Presented at the 2002 Annual Meeting of the American Institute of Chemical Engineers in Indianapolis, IN.
 30. Hulting, S., D. K. Rollins (Speaker), and N. Bhandari, "Accurate Predictions with Optimal Experimental Design Modeling for Human Thermoregulatory System." AIChE Annual Meeting, paper 342e, Indianapolis, IN, November 2002.
 31. Rollins, D. K. and N. Bhandari, "Continuous-Time Optimum Parameterization Modeling of Nonlinear Dynamic Processes." AIChE Annual Meeting, poster 258d, Indianapolis, IN, November 2002.
 32. Rollins, D. K. "DOE for Modeling Block-Oriented Dynamic Systems," Iowa State University Department of Statistics seminar, Fall 2002.
 33. Rollins, D. K., Session Discussant for the talk, "Gross Error Detection and Data Reconciliation," by Miguel J. Bagajewicz, at 2001 Gordon Research Conference, Statistics in Chemistry and Chemical Engineering.
 34. Rollins, D. K., "A General Approach To Optimal Manual Control Of Chemical Processes," Conference in Celebration of Wayne A. Fuller's 70th Birthday, Iowa State University, June 21-22, 2001.
 35. Rollins, D. K., "The Probabilistic Modeling of Segregation For Powder Mixtures and of Dispersion of Particles in Fixed Bed Reactors," Chemical Engineering Department Seminar at The Ohio State University, Columbus, Ohio, April, 2001.
 36. Rollins, D. K., "Bringing Experimental Design into the Realm of Process Dynamics," Statistics Department Seminar at The Ohio State University, Columbus, Ohio, April, 2001.
 37. Rollins, D. K., "Bringing Experimental Design into the Realm of Process Dynamics," Centre for Process Systems Engineering Workshop: The Life of a Process Model: From Conception to Action." London, England, October, 2000.
 38. Rollins, D. K., "A Multivariable Process Study Showing Strong Statistical Significance of Die Cavity in Cast Film Formation," 3M seminar, July 27, 2000.
 39. Rollins, D. K., "Expanding Your Statistical Tool Box in Engineering Problem Solving," 3M seminar sponsored by the 3M Statistical Consulting Corporate group in Information Technology, June 19, 2000.
 40. Rollins, D. K., "A Bit of What Industrial Statisticians Need to Know About Time Varying Processes (Process Dynamics)," present to the 3M Statistical Consulting Corporate group in Information Technology, June 12, 2000.
 41. Bhandari, N and Derrick K. Rollins, "An Efficient, Effective and Accurate Approach To Semi-Empirical Dynamic Predictive Modeling," Presented at the 1999 Annual Meeting of the American Institute of Chemical Engineers.
 42. N. Bhandari (Speaker) and D. K. Rollins, "Superior semi-empirical dynamic predictive modeling that addresses interactions." Intelligent Systems and Control conference, Santa Barbara, California, October 1999.
 43. Rollins, D. K., "A Comprehensive Approach To Dynamic Predictive Modeling," Chemical Engineering Department Seminar at Purdue University, December, 1999.
 44. Bascuñana, M. B., and D. K. Rollins, "New Strategies for Detection and Identification of Measurement Biases in Processes Under Dynamic Conditions and Having

- Bilinear Constraints,” Presented at the 1998 Annual Meeting of the American Institute of Chemical Engineers.
45. Rollins, D. K., Session Discussant for the talk, “The Terrible and Wonderful Problem of Project Planning and Prioritization Under Uncertainty,” by Kent Steele of Dow AgroSciences, at 1998 Gordon Research Conference Statistics in Chemistry and Chemical Engineering.
 46. Rollins, D. K., “SET: Predictive Modeling with an Attitude,” presented at The Ohio State University, Chemical Engineering Department Seminar, January 7, 1998.
 47. Rollins, D. K., “SET: Predictive Modeling with an Attitude,” presented at The University of Oklahoma, Chemical Engineering Department Seminar, January 29, 1998.
 48. Chen, V (speaker), A. Garth, J. Zhu, and D. K. Rollins, “Evaluation of Model Discrimination Techniques in Artificial Neural Networks With Application to Grain Drying,” Presented at the 1996 Annual Meeting of the American Institute of Chemical Engineers in Chicago, Ill.
 49. Devanathan, S. (speaker) and D. K. Rollins, “Improved Identification of Systematic Errors in Process Variables: Steady State and Dynamic Conditions,” Presented at the 1996 Annual Meeting of the American Institute of Chemical Engineers in Chicago, Ill.
 50. Rollins, D. K., “Practical Application of Statistical Methodologies to Improve Industrial Process Performance,” 3M Knoxville Plant, June 4, 1996.
 51. Pounds, S. and D. K. Rollins, “Selecting Among Polynomial, Intrinsically Linear, and Non-linear Regression Models: Inference, Assessment, and Discrimination,” Presented at the Annual ASEE Meeting in Chicago, Ill, June, 1996.
 52. Garth, A. D. and D. K. Rollins, “Evaluation of Model Discrimination Techniques in Artificial Neural Networks,” presented at the 156th Annual Meeting of the American Statistical Association (August 1996).
 53. Biechler, A. J., V. C. P. Chen, K. S. McGlynn, and D. K. Rollins, “Important Considerations in Dynamic Predictive Modeling Using Artificial Neural Networks and Other Empirical Modeling Methods,” Presented at the 23rd Annual Conference of NOBCCChE, Detroit, MI (1996).
 54. Rollins, D. K., "Fitting Statistics into the Chemical Engineering Curriculum," presented at the Annual ASEE Meeting in Anaheim, CA, June, 1995.
 55. Rollins, D. K., "Accurate Simplistic Modeling of Nonlinear Dynamic Processes," presented at The Ohio State University, Statistics Department Seminar, May 23, 1995.
 56. Rollins, D. K., "Accurate Simplistic Modeling of Nonlinear Dynamic Processes," presented at the Georgia Institute of Technology, Statistics Department seminar, May 15, 1995.
 57. Rollins, D. K., "Accurate Simplistic Modeling of Nonlinear Dynamic Processes," presented at the University of Kansas, Chemical and Petroleum Engineering Department seminar, April 19, 1995.
 58. Rollins, D. K., "Accurate Simplistic Modeling of Nonlinear Dynamic Processes," presented at an ISU Aerospace Engineering Department Seminar, March 28, 1995.
 59. Rollins, D. K., "Statistical Modeling of the Thermoregulatory System & Sensor Validation in Life Support Systems," NASA Ames Research Seminar, Mountain View California, March 10, 1995.
 60. Rollins, D. K., "Simple and Accurate Semi-empirical Modeling of Process Variables for Nonlinear Dynamic Processes," presented at an ISU EE Department seminar, February 3,

1995.

61. Rollins, D. K. (speaker) and J. M. Liang, "Lessons in Process Modelling and Control: Simple is Often Better," presented at the AIChE Iowa Section Meeting (October 7, 1994).
62. Rollins, D. K. (speaker), A. Nason, J. Pelkey, J. M. Liang, and S. Penney, "Model Discrimination in Artificial Neural Networks With Applications to Grain Drying," presented at the Annual AIChE Meeting in San Francisco, CA, 1994.
63. Rollins, D. K. (speaker), M. Melendez, Y. Cheng, and F. F. Jamin, "The Importance of Power in Gross Error Detection," presented at the Annual AIChE Meeting in San Francisco, CA, 1994.
64. Rollins, D. K. (speaker), "Statistically Attacking Powder Mixture Segregation," Seminar at 3M, March 16, 1994.
65. Rollins, D. K. (speaker), "Statistically Modeling Industrial Process Data," Presented at the 3M-University Process Modeling & Control Meeting, July 14, 1994 - Tartan Park.
66. Rollins, D. K. (speaker), D. L. Faust (Speaker), and D. L. Jabas, "Statistical Evaluation of Techniques to Determine Segregation in Powder Mixes" presented at the Annual AIChE Conference, St. Louis, MO, 1993.
67. Rollins, D. K., Y. Cheng (speaker), and J. F. Davis, "Gross Error Detection Under Various Conditions When Variances-Covariances Are Unknown" presented at the Annual AIChE Conference, St. Louis, MO, 1993).
68. Rollins, D. K. (speaker), "Statistical Evaluation of Mixing," Invited speaker to the 3M Compounding Mixing & Extrusion Conference, October 11-15, St. Paul, MN.
69. Rollins, D. K. (speaker), D. L. Faust (speaker), and D. L. Jabas, "An Evaluation of Statistical Approaches to Assess Mix Segregation," Presented at the 1993 Powders and Bulk Solids Conference and Exhibition.
70. Rollins, D. K. (speaker), "Important Uses of Statistics in Chemical Engineering," Chemical Engineering Seminar at Iowa University, April, 1993.
71. Sofekun, O. A (speaker), D. K. Rollins, and L. K. Doraiswamy, "Catalyst Dilution as a Means of Obtaining Precise Kinetic Data," (presented at the Annual AIChE Conference, Miami, FL, 1992).
72. Rollins, D. K., "Chemical Engineering Problem Solving in the 'Real World'," (presented at Moscow Mendeleev Institute, Russia, May 29, 1992).
73. Rollins, D. K., "Maintaining Accuracy in Data Reconciliation When Gross Errors are Present," (presented at Shell Development Company, Houston, Texas, May 12, 1992).
74. Rollins, D. K., "Gross Error Detection in Chemical Process Operations," (presented to the Iowa State Statistics Department, November, 1991).
75. Rollins, D. K., "Important Issues in Applying Statistics in Chemical Process Industry," Invited to Speak at the Speaker's Dinner for the Dow Chemical's 3rd Annual Applied Statistics Tools Conference, October, 22-23, 1991.
76. Rollins, D. K., "Problem Solving in the Chemical Process Industry," (presented at Dow Chemical Company, Midland Michigan, July, 1991).
77. Rollins, D. K. and S. D. Roelfs, "Gross Error Detection That Yields Unbiased Estimates And Confidence Intervals For Process Variables," (poster session at the 1991 Gordon Research Conference On Statistics in Chemistry and Chemical Engineering).
78. Rollins, D. K. (Speaker) and S. D. Roelfs, "Unbiased Estimation Of Process Variables When

Gross Errors Exist And Constraints Are Bilinear," (presented at the Annual AIChE Conference, Los Angeles, California, 1991).

79. Rollins, D. K. (Speaker) and J. F. Davis, "Gross Error Detection In Chemical Processing Plants: Combining Statistical Methods And Knowledge-Based Systems For Detection And Diagnosis" (presented at WATtec Annual Technical Conference and Exhibition, Knoxville, TENN, 1990).
80. Rollins, D. K. (Speaker) and J. F. Davis, "Gross Error Detection In Chemical Processing Plants: Test Statistics, Power Functions And Confidence Intervals," (presented at The National Technical Association 62nd Annual Conference, Columbus, Ohio, 1990).
81. Rollins, D. K. (Speaker) and J. F. Davis, "Gross Error Detection In On-Line Operations: α -Level Tests, Power Functions, Unbiased Estimates And Confidence Intervals," (presented at the Annual AIChE Conference, Chicago, Ill, 1990).

X. EXTENSION/OUTREACH ACTIVITIES

1. Consultant to Florida A&M University, Mathematics Department, summer 2006.
2. Taught Three-Day Short Course "Probability and Statistical Inference for Chemical Engineering Faculty and Graduate Students," Ankeny, Iowa, May 9-11, 2001.
3. Taught Three-Day Short Course "Time Series Methodologies For The Process Control Engineer," at 3M in St. Paul, Aug. 14-16, 2000.
4. Taught Four-Day Short Course "Probability and Statistical Inference with Emphasis in Chemical Engineering," at IMC AGRICO Company in Mulberry, Florida, June 2 - 5, 1997.
5. Taught Four-Day Short Course "Probability and Statistical Inference for Chemical Engineering Faculty and Graduate Students," Iowa State University, June 11-14, 1996.
6. Taught Two-Day Statistics Course to Amoco Co. Employees, November 13-14, 1993.
7. Consultant to the 3M Company, St. Paul, MN (Engineering Service and Technology, ES&T) -- 1st Contract from June 1993 to May 1994, 2nd Contract from June 1994 to May 1995, 3rd Contract from June 1995 to May 1996, Knoxville Plant, June 1996.
8. Consultant to the Shell Oil Company, Houston, TX (Statistics and Consulting Department and the Process Control Department) on May 12, 1992.
9. Consultant to the Dow Chemical Company, The Applied Statistics and Consulting Group, for two weeks in July, 1991.

XI. PATENTS

None

XII. GRADUATE STUDENTS

1. Patricia Smith (IMSE -- Operations Research, M.S. Spring 1995).
2. Sriram Devanathan (M.S. ChE, Spring 1993, co-PhD major in Statistics and ChE, Fall,

- 1997).
3. Shonda Kuiper (M.S. Statistics, Fall 1994; Ph.D. Statistics, Summer 1997).
 4. Philip Ross (M.S. Statistics, Spring 1992).
 5. Jean Pelkey (Statistics, Ph.D. Spring 1997).
 6. Yisun Cheng (M.S. Chemical Engineering, Fall 1994).
 7. Kristine Bendixen (M.E. Chemical Engineering, Spring 1995).
 8. Jennifer Walker (M.S. Statistics, Fall 1995, Ph.D. ChE, August, 1999).
 9. Angelita Nason-Garth (M.S. Statistics, Summer 1995).
 10. Maritza Melendez (M.S. Statistics, Summer 1995).
 11. Sharon Johnson (M.E. Chemical Engineering, Summer 1995).
 12. James Stallman-Smith (M.S. Statistics, Fall 1996).
 13. Nidhi Bhandari (Ph.D. Chemical Engineering, Fall 2000).
 14. Marivic Bascunana (Ph.D. Chemical Engineering, Fall 1999).
 15. Christine Rietz (Chemical Engineering, M.S., August 1998).
 16. Ruth Kongsjahju (M.S. Chemical Engineering, August 1998).
 17. Xiaohong Cao (M.S. Statistics, Spring 1997).
 18. Jennifer Hellrung (M.S. Statistics, Fall 1999).
 19. Stephanie Loveland (M.S. Chemical Engineering, Summer 2002; Ph.D. ChE Program).
 20. Darla Elgin (M.E., Industrial Engineering (IMSE), Fall 2000).
 21. Sandra Hulting (M.S. Statistics, Summer 2002).
 22. Aulia Hardjasamudra (M.S. Statistics, Fall 2003).
 23. Swee-teng Chin (M.S. Statistics, Fall 2003, Ph.D. Chemical Engineering Program).
 24. Liza Pacheco (M.S. Chemical Engineering, Spring 2003).
 25. Dong-Mei Zhai (M.S. Statistics, Fall 2002; Co-PhD Program in ChE and Statistics, Summer, 2005).
 26. Justin Nguyen (M.S. Statistics, Summer 2005)
 27. William Rodriguez (Chemical Engineering, ME Summer 2006)
 28. Gabrielle Lynn Larson (M.S. Statistics, Fall 2006).
 29. Amanda Bell (M. S. Statistics program)
 30. Lucas P Beverlin (Ph.D. Statistics program)

XIII. PROFESSIONAL ACTIVITIES

1. Chair, 10B11 Process Modeling and Identification, AIChE Annual Meeting, San Francisco, CA, November 2006.
2. Chair, 10B2 Process Modeling and Identification, AIChE Annual Meeting, San Francisco, CA, November 2006.
3. Co-Chair, 10A01 Industrial Innovation in Process Design & Operations, AIChE Annual Meeting, San Francisco, CA, November 2006.
4. Chaired, Biochemistry Session at The Annual Meeting for NOBCCChE, Los Angeles, California (2006).
5. Session Co-chair, 10C13 Optimization and Control of Hybrid Systems, AIChE Annual Meeting, Indianapolis, IN, November 2005.

6. Gordon Conference Session Chair for Statistics in Chemistry and Chemical Engineering, 2005.
7. Session Chair, Process and Control System Monitoring, Session 435, AIChE Annual Meeting, San Francisco, CA, November 2003.
8. Developed a Pioneering Non-residential Summer Enrichment Program in Math, and Physics for Raising Minority Eleventh Graders in the Des Moines School System as Part of the ISU Science Bound Program the Summer of 2003.
9. Faculty Advisor to the NSF Program for the Production of African American Ph.D.s in the Mathematical Sciences at Jackson State University (2001-)
10. Active Participant in the NSF Alliance for Graduate Education and the Professoriate (AGEP) Program.
11. Developed a Pioneering Non-residential Summer Enrichment Program in Math, Physics and Literature for Raising Minority Tenth Graders in the Des Moines School System as Part of the ISU Science Bound Program the Summer of 2002.
12. Developed a Pioneering Non-residential Summer Enrichment Program in Math and Literature for Raising Minority Ninth Graders in the Des Moines School System as Part of the ISU Science Bound Program the Summer of 2001.
13. Technical Advisory Committee of the Foundations of Computer-Aided Process Operations 2003, A View to the Future Integration of R&D, Manufacturing and the Global Supply Chain Conference sponsored by CACHE and CAST Division, AIChE January 12-15, 2003.
14. 2001 Organizing Committee and Speaker at the NSF Workshop: Minority ChE Faculty 2001+: A Workshop to Develop Minority Leaders in the ChE Academy, March 4-6, 2001.
15. 1998 Panel Member for the NSF NATO Post Doctoral Program.
16. 1997 2nd Co-Chair of AIChE Minority Affairs Committee (MAC).
17. 1997 Panel Member for the NSF NATO Post Doctoral Program.
18. 1996 Panel Member for the NSF Undergraduate Course and Curriculum Development and Faculty Enhancement Programs.
19. 1996 Panel Member for the NSF Faculty Early Career Development Proposal in the Chemical Reaction Process Program.
20. Member of AIChE, ASEE, ΦκΦ, ΣΞ, ASA, Golden Key.
21. Academic Advisory Board for the University of Kansas Chemical Engineering Department.
22. Advisory Board for the EESEE (statistics encyclopedia) software program developed by statisticians at the Ohio State University.
23. Member of CACHE Statistics Committee (1994 -1995).
24. Chair for Area 10b Systems and Process Control Session, "Empirical Modeling for Control," 1994 AIChE Spring National Meeting, Atlanta, GA, April 17-21, 1994.
25. Commentator for Session I, "Issues on Process Monitoring," of the 1993 FOCAPO Meeting in Crested Butte CO.
26. Member of CACHE Working Group for Improving Statistics in Chemical Engineering Curriculums.
27. One of the judges for the American Statistical Association's Statistics in Chemistry Award (1992 and 1993 Awards).
28. Ames Community School District, member of the "Community of Color Advisory Committee, 1995-

XIV. UNIVERSITY ACTIVITIES

1. Developed and taught a five week statistics course for summer interns in the NSF Program to "Increase the Production of African American Ph.D.s in the Mathematical Sciences," summer 2006.
2. Institute of Combinatorial Discovery (ICD) Executive Committee, 2004-
3. ISU Golden Key National Honor Society Scholarship Committee, 2005
4. African American Studies Director Search Committee, 2005-2006
5. Founder and Faculty Advisor for the ISU Chapter of The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), 2004-
6. Chair, ISU Dr. Martin Luther King, Jr. Holiday Celebration, 2004-
7. Chair of Associate Dean of Students/MSA Director Search, 2002.
8. Task Force Member on University Strategic Effectiveness and Budget Priorities, 2001-2002.
9. Advisor to the ISU President's Cabinet on Diversity (1996-).
10. Department Committees: Search (Stat), Assistantship Evaluation (Stat), Scholarship (ChE), Graduate Program (ChE), M.S. (Stat), Library (Stat), Process Control Lab Coordinator (ChE), Chair, Minority Enhancement and Undergraduate Recruiting (ChE), Faculty Search Committee for the Computer Science Department (1999), Diversity Committee Chair (Stat, 2003).
11. Panel member at one of the ISU President's Conversations on Diversity Meetings
12. Guest Speaker in the new engineering diversity course, WS/IE 325 "Women and Men in the Engineering Workplace" (2003).
13. Guest Speaker in the new engineering diversity course, WS/IE 325 "Women and Men in the Engineering Workplace" (2003).
14. Panel member for the graduate student course "Preparing Future Faculty (PFF), 'Diversity in Higher Education (2002, 2003).
15. Engineering College Committees: Minority Retention (1992), Academic Advisory (1992-1993), Search for MEP Director (1992-1993), Chair of Search Committee for LEAD Director (1993-1994), Chair, Advisory Board for the LEAD Minority Engineering Program (1997-), 1999 Anna Pate Mentoring Award Selection Committee, Search Committee for LEAD Director (1999-2001).
16. LAS College Committees: Chair of the African American Studies Program (1994-1996), Member of African American Studies Program Committee (1997, 2000), Cross Disciplinary Programs (1994-1996).
17. University Committees: Committee to Study Faculty Salary Equity; Engineering College Dean Search Committee; University Teaching Awards Committee; IITAP Advisory Board; Diversity Steering Committee (1996-); Chair, Review Committee for the Faculty Positions Dedicated to Development of Diversity in Curriculum (1996 & 1997), Co-Chair of the Multicultural Taskforce (1998-), Alliance for Minority Participation grant program committee, Organizing Committee for the ISU Enhancing Minority Success Conference

- (1998), Steering Committee for Enhancing Minority Success (1999), Science Bound Advisory Board (1999-), Carver Academy Board Member (1999-).
18. Panel Member selected by the Provost to discuss mentoring women and minority faculty.
 19. Science Bound Program: Very active in several ways including the keynote speaker at luncheon to begin 1991 and 1992 programs, attending advisory board meetings, trips to Des Moines to speak with teachers and mentors, and assisting in Saturday morning programs to visit engineering departments. Advisory Board, 1999-.
 20. McNair Postbaccalaureate Achievement Program Advisor.
 21. Faculty Advisor for the following student organizations: "Campus Bibliocist" (1993-1994, 1994-1995), "Campus Outreach," (1993-1994, 1994-1995) and "Gospel Soul Innovators" (1993-1994, 1997-2001), Campus Crusade for Christ (1994-), AIChE Student Chapter (1997-2002), ISU Hooverball Club (2000-), ISU Table Tennis Club (2003-), Science Bound (2003-), NOBCCChE (2004-)
 22. Process Control Laboratory Coordinator, 1992-

XV. OTHER INFORMATION:

Research advisor for the following undergraduate students: Grant Runyon (1991-1993), Paul Witt (1991-1993), Kristine Jensen (1992), Melissa Rainey (1992-1993), Donna Faust (1992-1993), Fen Fen Jamin (1993-1994), Dawn Baylor (1993), Stuart Penney (1993-1994), Chung Man Desmond Lam (1994), Tammy Schmitz (1994), Caryn Woods (1994-1996), Heather Wandersee (1994), Tenawati Tanu (1994-1995), Karem Poyta (1993-1996), Jana Mentzer (1994-1995), Erin Aten (1994), Ruth Kongsahju (1994-1996), Jen Cox (1995), Amy Biechler (1995-1997), Sydney Pounds (1995-1997), Kelly McGlynn (1995-1997), Charlotte Schulze-Hewett (1995, 1997-1998), Gabrielle Lasher (1995), Lisa Arjes (1995), Jennifer Heldt (1995-1996), Mark Villanueva (1995-1996), Kok Siong (1995), Pei Ching Lim (1995), Jennifer Nieman (1995), Patrick Tierney (1995) Sarah Spear (1996), Brent Kjellberg (1996-1997), Chris Russel (1996-1997), Tifne Pals (1996), Ryan Cooper (1996), Andrew Ryan (1997), Molly McNaughton (1998-1999), Jennifer Westfall (1998), Stephanie Loveland (1998), Kate Truckenmiller (1998-1999), Lon Freeman (1998), Mitch Essing (1999), Shawn Klauser (2000), Sarah Fetter (1999-), Shannon Hughes (1999), Randall Hoskin (2000), Chandance Richardson (1998-), Priscilla Ng (2000-02), Katie Kabe (2001-), Michael Mischnick (2001), Julie Sandberg (2001), Danielle McConnell (2001-), Nicole Richardson (2001-), Chantal Lambert-Fields (2001), Chi-Chi Ibekwe (2001-02), Adam Bryant (2001), Alyssa Shiue ('01-), Dean Schwebauch ('02), Pamela Guzowski ('01-'02), Nicole Edmond ('01-'02), Pramila Thomas ('01), Megan Fry (2002-03), Cassie Bacon (2003-'04), Gabriela Nino De Guzman (2003-), Guadalupe Vera (2002-03), Tracy Junge (2003-'04), Kristie Roosa (2003), Rachel Iheanacho (2003-), Jumoke Alowonle (2004), Lanaire Timcke (2003-2005), Ka-Yan Leung (2004), Brian Tekippe (2004), Lewis Vincient (2004-05), Natalie Matos (2003-2006), Amber Strohbeh (2005-2006), Belay Shita (2004), Ola Shadiya (2005-2006), Ailing Teh (2005-), Jack Guidarelli (2005-2006), Megan Murphy (2005-2006), Lindsay Boland (2005-2006), Jim Kleinedler (2006), Kevin Flis (2006), Alexander Diehl (2006), Rachael Grier (2006), Sam Low (2006), Michael Owens (2006), Bradley Cowan

(2007), Andrea Lowe (2007), Josefina Utama (2007), Scott Munhall (2007), Korin Reid (2007).

Research advisor for the following summer intern students for the Women in Science and Engineering Program: Taia Pals ('92), Terrill Johnston ('92 & 94), and Melissa Rainey ('92), Arun Sivasothy ('93), Caryn Woods ('94), Monica Woodward ('94), Tonya Lancaster ('94), Jen Cox ('95), Ujjaini Mitra ('95), Susan McAndrew ('95), Amy Ashbacher ('95), Jennifer Wachter ('96), Amy Winston ('96), Parisa Taravati ('96), Theodora Petratos ('96), Leanne Manuell ('96), Alyssa Puffer ('97), Aletia Van Brocklin ('97), Brittany Borrow ('98), Jessica Johnson ('98), Molly McNaughton ('98), Monica Erickson ('99), Trisha Greiner ('99), Tracy Chenoweth ('99)

Research advisor for the following summer intern student for the Agriculture Minority Summer Research Internship Program: Vernon Gambleton ('96)

Research advisor for the following summer intern students for the NASA sponsored Southern University Pipelines Project: Chi-Chi Ibekwe ('00), Esinam Glakpe ('01), Miriam Azuoru ('01), Arielle Mason ('01), Rachel Iheanacho ('02), Jason Paul ('02), Wesley Dunlap ('02). Steven Maffett ('07)

Research advisor for the following summer intern students for the NSF Alliance for Graduate Education and the Professoriate (AGEP) Program: Angela Davis (2003), Shauntee Prince (2003), Erica Naves (2004), Emmanuel Criener (2005), Alrica Joe (2005), Angelitta Britt (2006)

REU: Kelley Hartman ('06).