

# Curriculum Vita

**Timothy E. Lindquist**

## **Address:**

School of Computing, Informatics, and Decision Systems Engineering  
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## **1.0 Education and Employment:**

- 1973 BS Math/Computer Science, Purdue University, West Lafayette Indiana.
- 1977 MS Computer Science, Iowa State University, Ames Iowa.
- 1979 Ph.D. Computer Science, Iowa State University, Ames Iowa.

## **1.1 Professional Positions:**

- 2016 - Professor of Software Engineering, School of Computing, Informatics, and Decision Systems Engineering, Ira A Fulton Schools of Engineering, Arizona State University at the Polytechnic campus.
- 2014 - 16 Professor and Software Engineering Programs Chair, School of Computing, Informatics, and Decision Systems Engineering, Ira A Fulton Schools of Engineering, Arizona State University at the Polytechnic campus.
- 2011-14 Professor and Computing Programs Chair, Department of Engineering and Computing Systems, CTI, Arizona State University at the Polytechnic campus.
- 2008-11 Professor, Department of Engineering, Arizona State University, Polytechnic campus.
- 2006-08 Interim Dean, College of Science and Technology, Arizona State University, Polytechnic campus.
- 2003-06 Associate Dean and Director of Computing Studies, College of Technology and Applied Sciences Arizona State University at the Polytechnic campus.
- 2000-03 Professor and Chair, Electronics and Computer Engineering Technology, Arizona State University Polytechnic campus, Mesa Arizona.
- 1995-96 Associate Chair for Academic Programs, Computer Science and Engineering, Arizona State University Tempe campus.
- 1985-00 Associate Professor, Department of Computer Science and Engineering, Arizona State University Tempe campus.
- 1979-85 Assistant Professor, Computer Science Department, Virginia Tech, Blacksburg VA.
- 1976-77 Research Assistant, Department of Computer Science, Iowa State University, Ames IA.
- 1975-79 Teaching Assistant, Department of Computer Science, Iowa State University, Ames IA.
- 1975 System Manager, General Electric Company, Burlington Vermont.
- 1973-74 Software Developer, Factory Control Group, General Electric Co, Louisville KY.

## 1.2 Visiting Positions:

- 1999 ASEE/ONR Summer Visiting Faculty, SPAWAR Systems Center, San Diego
- 1997 ASEE/ONR Summer Visiting Faculty, SPAWAR Systems Center, San Diego
- 1993 Visiting Professor, CRIN-CNRS-LORIA Laboratoire lorrain de recherche en informatique et ses applications, Nancy France.
- 1991 Visiting Scientist, Institute for Defense Analyses, Alexandria Virginia.
- 1981 Visiting Professor, Computer Science North Texas State University, Denton Texas.

## 2.0 Publications:

### 2.1 Papers in Journals:

- Raja, A, Tridane, A, Gaffar, A, Lindquist, T, & Pribadi K, "Android and ODK based data collection framework to aid in epidemiological analysis," in Online journal of public health informatics, 5(3), pp 228-225; 2014.
- Bateman, HL, Lindquist, TE, Whitehouse, RO, Gonzalez, MM, "Mobile application for wildlife capture-mark-recapture data collection and query," in Wildlife Society Bulletin, Vol 37, No. 3; DOI: 10.1002/wsb.322; Aug, 2013.
- Mudiam, S.V.; Gannod, G.C. and Lindquist, T.E., "Synthesizing and Integrating Legacy Components as Services Using Adapters", Journal of the Science of Computer Programming, 60(2) pp 134-148 (2006).
- Gannod, G.C.; Mudiam, S.V. and Lindquist, T.E., "Automated Support for Service-Based Software Development and Integration", Journal of Systems and Software – Special Issue on Automated Component-Based Software Engineering, Elsevier Science Publishers, 74:1 pp 65-71 (2005).
- Lindquist, T.E. "Keystroke Capture Tools: Using Past Behavior as a Basis for Software Testing," ASTE Review, Vol 4 No. 1, pp1-3, Jan. 1989.
- Lindquist, T.E. and J.R. Jenkins, "Test Case Generation with IOGEN," IEEE Software January 1988.
- Lindquist, T.E. and R.C. Joyce, "Ada Task Synchronization in a Multiprocessor System with Shared Memory," Journal of Pascal, Ada, and Modula-2, Vol. 4, March/April 1985.
- Lindquist, T.E., R.G. Fainter, M.T. Hakkinen, "GENIE: A Modifiable Computer-Based Task for Experiments in Human-Computer Interaction," Int'l Journal of Man-Machine Studies, Vol. 23, pp. 391-406, 1985.
- Lindquist, T.E., "Assessing the Usability of Human-Computer Interfaces," IEEE (Institute of Electrical and Electronics Engineers) Software, Vol. 2, No. 1, pp 74-82, January 1985.
- Lindquist, T.E., J.L. Facemire, and D.G. Kafura, "A Specification Technique for the Common APSE Interface Set," Journal of Pascal, Ada, and Modula-2, Vol. 3, No. 5, pp. 25-32, Sept/Oct 1984.

### 2.2 Papers in Full Paper Reviewed Conference Proceedings:

- Lindquist, T; Ramamurthy, A; Anguamea, R; "Frameworks for Securing Limited-Device Applications," in Proc. 41th Annual Hawaii Int'l Conf on Systems Sciences, ACM, IEEE Computer Society, January 2008.
- Kumaran, VS; Lindquist, T, "Web-Based Course Information System Supporting Accreditation," in Proc. of the IEEE/ASEE Frontiers in Education Conf, Oct. 2007.
- Keating, D, et al; Lindquist, T; "Enabling Strong US Engineering Workforce for Technological In-

- novation: A National Partnership in Graduate Professional Education with Industry to Enhance US Competitiveness and Economic Development,” in Proc. of the 2007 ASEE Annual Conference, June 2007.
- Keating, D, et al; Lindquist, T; “Faculty Reward System Reform for Advancement of Professional Engineering Education for Innovation: Rethinking a Model Template for Unit Criteria of Professionally Oriented Faculty,” in Proc. of the 2007 ASEE Annual Conference, June 2007.
- Koehnemann, H.; Lindquist, TE; “Lessons Learned Creating a Laptop Policy for Computing Programs”, in Proc. of the 2006 ASEE Annual Conference, June 2006.
- Pannu, K.; Lindquist, TE; Whitehouse, RO; and Li, YH; “Java Performance on Limited Devices”; Proc The 2005 International Conference on Embedded Systems and Applications (ESA), CS-REA Press, pp 231-237, Las Vegas, June, 2005.
- Gary, K; Gannod, G; Koehnemann, H; Lindquist, T; Whitehouse, R, “WIP: The Software Experience,” in Proc. of the IEEE/ASEE Frontiers in Education Conf, 2005.
- Lindquist, TE, Diarra, M, and Millard, BR; “A Java Cryptography Service Provider Implementing One-Time Pad”; Proc. 37th Annual Hawaii Int'l Conf on Systems Sciences, ACM, IEEE Computer Society, January 2004.
- Gannod, G.C.; Mudiam, S.V. and Lindquist, T.E., “A Novel Service-Based Paradigm for Dynamic Component Integration”, in the AAAI-02 Workshop on Intelligent Service Integration, July 2002
- Lindquist, TE; “Security Considerations for Distributed Web-Based e-commerce Applications in Java”; Proc. 35th Annual Hawaii Int'l Conf on Systems Sciences, ACM, IEEE Computer Society, January 2002.
- Schaefer, L, Graf, G, Lindquist, T; “Three-Segment Agent Architecture using JINI for Workflow,” Proc. 2001 Intl Conf on Artificial Intelligence, Las Vegas, NV, June 2001.
- Gannod, GC, Mudiam, SV, Lindquist, TE; “An Architectural-Based Approach for Synthesizing and Integrating Adapters for Legacy Software,” Proceedings of the 7th Working Conference on Reverse Engineering, November 2000.
- Gary, K. and Lindquist, T.; “Cooperating Process Components,” Proceedings of the 23rd Intl. Conf. on Computer Software and Applications (COMPSAC'99). Phoenix, AZ, pp. 218-223, October, 1999.
- Sauer, L., Lindquist, T., Cairney, J.; Tracking Personal Processes in Group Projects, Proceedings of the 23rd Intl. Conf. on Computer Software and Applications (COMPSAC'99). Phoenix, AZ, pp. 364-369, October, 1999.
- Lindquist, T., Gary, K., Koehnemann, H. and Naccache, H.; Component Framework for Web-Based Learning Environments, Proc ASEE Conf Frontiers in Education '99, pp 12c3-23 to 12c3-28, November 1999.
- Naccache, H., Lindquist, T., and Urban, S.; A Framework and Reusable Tools for Developing Interactive Course Web Sites, Proc. ASEE Conf Frontiers in Education 98, November 1998.
- Gary, K.; Lindquist, T.; Sauer, L.; Koehnemann, H.; Automated Process Support for Organizational and Personal Processes, Proc of ACM Group'97 Conference, pp. 221-230, November 1997.
- Koehnemann, H.E., Reinert, P.A., Whitehouse, R., Lindquist, T.E. “A Test Suite Information System”, Proc. of the PCTE'94 Conference, PCTE Technical Journal Vol. 2 November, 1994, pp. 247-260.
- Lindquist, T.E. and Charoy, F. PCIS Object-Oriented Services, Proc. PCTE '93 Conference, PIMB, Paris, November 1993, pp. 409-427.
- Koehnemann, H.E. and Lindquist, T.E. “Toward Target-Level Testing and Debugging Tools for Embedded Software,” Proc. of the Tri-Ada Conference, ACM, September, 1993.

- Gowen, L.D., and T.E. Lindquist, "TAG: A Table-Automaton Generator for Recognizing Regular Languages," ISMM Int'l Conf., March 1991.
- Koehnemann, H.E., and T.E. Lindquist, "Runtime Control of Ada Rendezvous for Testing and Debugging" Proc. 24-Th. Annual Hawaii Int'l Conference on System Sciences, ACM, IEEE Computer Society, Jan. 1991.
- Lindquist, T.E., Lawlis, P.K. and Levine, D.P. "Typing Information in a Software Engineering Environment," 6-Th. Int'l Conference on Entity-Relationship Approach, November 1987.
- Lindquist, T.E. and J.R. Jenkins, "Test Case Generation with IOGEN," Proc. 20-Th. Hawaii Int'l Conference on Systems Sciences, Jan. 1987.
- Lindquist, T.E. and J.L. Facemire, "Using an Ada-Based Abstract Machine Description of CAIS to Generate Validation Tests," ACM (Association for Computing Machinery) Washington Ada Symposium, March 1985.
- Lindquist, T.E. and J.G. Tront, "Using Software Metrics to Compare the Structure of the Programmer's User Interface," Proc. 17th Annual Hawaii Int'l Conference on Systems Sciences, ACM, IEEE Computer Society, pp. 362-369, Jan. 1984.
- Lindquist, T.E. "The application of Software Metrics to the Human Computer Interface," Proc. IEEE (Institute of Electrical and Electronics Engineers) COMPCON Fall 1983, pp. 239-244, September 1983.
- Lindquist, T.E. and R.F. Keller, "The Correctness of Programs Written in the Language KL-1," Proc. of the IEEE (Institute of Electrical and Electronics Engineers) Computer Software and Applications Conference, pp. 635-640., November 1977.

### **2.3 Abstract Reviewed Conferences and Other Publications:**

- Bateman, H, Whitehouse R, Lindquist, T, Lowe M, Casagrande, A, and Heisel, P, "Mobile mark-recapture data collection and query," poster session at: The Wildlife Society Conference, Waikoloa Hawaii, November 5-10, 2011
- Lindquist, T.E., "Web Applications and Web Services: Supporting Technologies (Panel Introduction)," Proceedings Int'l Symposium on Applications of the Internet (SAINT03), IEEE, Orlando FL, Jan. 2003.
- Tiako, PF, Lindquist, T, Gruhn, V, "Workshop and conference summaries: Process support for distributed team-based software development workshop", ACM SIGSOFT Software Engineering Notes, Volume 26 Issue 6, ACM Press, November 2001.
- Lindquist, T. and Gary, K; "Experience with Distributed Process Components on JINI and JavaSpaces, Proc. of the 6th Intl. Conf. on Information Systems Analysis and Synthesis (ISAS'00)," invited session on Process Support for Distributed Team-based Software Development (PDTSD'00). Orlando, FL, August, 2000.
- Charoy, F., Derniame, J.C., Lindquist, T.E. and Minot, R; PCTE: Lessons for Transitioning Technology, Proc of ICSSEA, CNAM Paris, January 2000.
- Gary, K. and Lindquist, T.; Distributed Architectures for Process Component Support, Proc. of the 5th Intl. Conf. on Information Systems Analysis and Synthesis (ISAS'99), invited session on Process Support for Distributed Team-based Software Development (PDTSD'99). Orlando, FL, August, 1999.
- Gary, K., Lindquist, T. Koehnemann, H. and Derniame, J-C; Component-based Software Process Support, Proc. ASE 98, October 1998.
- Lindquist, TE and Derniame, JC, Towards Distributed and Composable Process Components, in Proc. European Software Process Workshop 1997, July 1997.
- Lindquist, T.E., Koehnemann, H.E. and Whitehouse, R. "Testing Embedded Ada", Proc. Testing Facilities Working Group Conference, USAF/WDC, June, 1993.

- Lindquist, T.E. and Munck, R.G. "How Do You Pronounce OO-ERA-RDBMS-OMS?" The Object Management System (OMS) Working Group, Symposium on Environments and Tools for Ada (SETA2), January 1992, also appeared in ACM Ada Letters, 1994.
- Lindquist, T.E., Gutzman, K.M.; Remkes, D.L.; McKee, G.; Optimization of Validation Test Suite Coverage, ACM Sigsoft Software Engineering Notes 16(3): pp 87-92, July 1991.
- Edge, K.C., and T.E. Lindquist, "Applying Results from Neural Network Modeling to Software Engineering," The 2nd Annual Conference on Artificial Intelligence and Ada," November 1986.
- Fainter, R.G., and T.E. Lindquist, "Using ADATAD to Debug Distributed Space Station Ada Software," Proc. 1-st. Int'l Conf on Ada Programming Applications for the NASA Space Station, June 1986.
- Lindquist, T.E., B. Abrams, L. Yelowitz, and R. S. Freedman, "Applying Semantic Description Techniques to CAIS," Proc. Third IDA (Institute for Defense Analyses) Workshop on Ada Verification, May, 1986.
- Lindquist, T.E. "Revisiting Axiomatic Exception Propagation," Proc. Third IDA (Institute for Defense Analyses) Workshop on Ada Verification, May, 1986.
- Golshani, F., et al., "Factors Affecting the Selection of a Programming Language for Software Development;" Proc. of the Phoenix Conference on Computers and Communication, February 1986.
- Iacoponi, M., J.G. Tront, and T.E. Lindquist, "ICICLE: An Interactive Color Integrated Circuit Layout Editor," IEEE (Institute of Electrical and Electronics Engineers) Southeast CON 85, April 1985.
- Srivastava, C.S. and T.E. Lindquist, "An Abstract Machine Specification for the Process Node Section of the Common APSE Interface Set (CAIS)," 3rd Annual National Conference on Ada Technology, March 1985.
- Tront, J.G. and T.E. Lindquist, "Terminal Emulation on a Personal Computer," Proc. 16th Southeastern Symposium on System Theory, pp. 290-293, March 1984.
- Belady, L., G.R. Gannon, B. Edwards, E. Kruesi (Bailey), T.E. Lindquist and M. Weiser, "Investigation of Human Engineering for Software Environments," ACM (Association for Computing Machinery) Software Engineering Notes, Vol. 7, No. 1, pp. 69-73, January 1982.

## 2.4 Papers in Collections:

- PCIS Architecture: Framework Definition and Rationale, Version 0.8; (editor Lindquist) (also contributed 1 of 11 technical sections) NATO Tri-Service Group on Communications and Electronics, Special Working Group on APSE, 3 November, 1993.
- PCIS Architecture: Framework Abstract Specification, Version 0.8; (editor Lindquist) (also contributed 1 of 11 technical sections) NATO Tri-Service Group on Communications and Electronics, Special Working Group on APSE, 3 November, 1993.
- Lindquist, T.E. (Ed.) "Issues and Strategies for Evaluation and Validation of CAIS-A Implementations," The APSE Evaluation and Validation Team Public Report Wright Research and Development Center, 1991.
- Lindquist T.E., "Methods and Tools for Increasing Reliability of Embedded Ada Systems," in Towards SDS Testing and Evaluation: A Collection of Relevant Topics, IDA Workshop on Software Reliability - IDA Memorandum Report M-513, pp. 17-27, Jan. 1989.
- Lindquist, T.E., C.S. Ku, and R.M. Robinson, "Integrated Tools for Program Construction," in Advances in Human Factors/Ergonomics 2: Human-Computer Dialogue Design, Ed. R.W. Ehrlich and R.C. Williges, Elsevier Amsterdam, 1986.

## 2.5 Technical Reports:

- Lindquist, T.; PCIS-2 i-Flow Interoperability Wrapper Users Guide, Technical Report of US-France Technology Research and Development Project on Software Tools, SPAWAR System Command, San Diego CA, October 1999.
- Lindquist, T., Iwamiya, R. and Yuynh, K.; PCIS-2 i-Flow Wrapper Requirements, Design and Installation Guide, Technical Report of The US-France Technology Research and Development Project on Software Tools, SPAWAR Systems Center, San Diego, October 1999.
- Lindquist, T.; PCIS2 Traceability Infrastructure Evaluation, Technical Report of The US-France Technology Research and Development Project on Software Tools, SPAWAR Systems Center, San Diego, September 1999.
- Charoy, F., Derniame, J-C, Lindquist, T., Minot, R.; PCTE: Lessons for Transitioning Technology, Technical Report of The Portable Common Tool Environment (PCTE) Interface Management Board (PIMB), May 1998.
- PCIS2 Architecture Specification Version 1.0 (Lindquist, T. Editor), The US-France Technology Research and Development Project on Software Tools, SPAWAR Systems Center, San Diego, January 1998.
- Lindquist, T., Gary, K., Koehnemann, H., PCTE and Its Implementations: Portos and Transtar, Technical Report TR-97-027, Computer Science Department, Arizona State University, March 1997.
- Koehnemann, H., Gary, K., Lindquist, T., Software Components with CORBA, Java and the Internet, Technical Report TR-97-032, Computer Science Department, Arizona State University, April 1997.
- Sauer, L., Lindquist, T., Koehnemann, H., Open Configuration Management Interfaces, Technical Report TR-97-025, Computer Science Department, Arizona State University, September 1997.
- Sauer, L., Lindquist, T., Koehnemann, H., Gary, K., Toward Interoperable and Reusable Calendar- ing Components, Technical Report TR-97-024, Computer Science Department, Arizona State University, May 1997.
- Gary, K., Lindquist, T., Koehnemann, H., Component-Based Process Modeling, Technical Report TR-97-022, Computer Science Department, Arizona State University, May 1997.
- Gary, K., Lindquist, T., Koehnemann, H., Applying Open Process Components to the Software Process, Technical Report TR-97-021, Computer Science Department, Arizona State University, May 1997.
- “International Requirements and Design Criteria (IRAC) for the Portable Common Interface Set (PCIS)”, Version 1.0, Prepared for the NATO Tri-Service Group on Communications and Electronics (TSGCE) Special Working Group on Ada Programming Support Environments, Lindquist coordinated 1 of 10 sections, May 1992.
- E. K. Bailey, T.E. Lindquist “Requirements for Evaluation and Validation of Ada Programming Support Environments,” Wright-Patterson AFB - Avionics Lab, Ohio, October 1984.
- Kramer, J.F., C. Anderson, and T.E. Lindquist “Ada Programming Support Environment Evaluation and Validation Workshop Report,” Institute for Defense Analyses, Washington, D.C., October 1984.
- Williges, R.C., R.W. Ehrich, B.H. Williges, H.R. Hartson, J.S. Greenstein, J.W. Roach, and T.E. Lindquist, “Human-Computer Interactions and Decision Behavior,” Virginia Tech Computer Science Technical Report, CSIE-83-16, January 1984.
- Lindquist, T.E., R.G. Fainter, M.T. Hakkinen, S.R. Guy, and J.F. Maynard, “GENIE: A Modifiable Computer Based Task for Experiments in Human-Computer Interaction,” Virginia Tech Computer Science Technical Report CSIE-83-10, November 1983.

- Fainter, R.G., S.R. Guy, J.F. Maynard, and T.E. Lindquist, "Generic Environment for Interactive Experiments," Virginia Tech Computer Science Technical Report, CS-820009, August 1983.
- Ku, C.S., and T.E. Lindquist, "PEEP: A Pascal Environment for Experiments on Programming," Virginia Tech Computer Science Technical Report, CSIE-82-9, September 1982.
- Lindquist, T.E. "Kernel Interface Requirements Based on User Needs," Kernel Ada Programming Support Environment (KAPSE) Interface Team: Public Report, Vol. 1, NOSC, pp. 4L1-4L6, April 1982.
- Kafura, D.G., J.A.N. Lee, T.E. Lindquist, and T. Probert "Validation in Ada Programming Support Environments," Kernel Ada Programming Support Environment (KAPSE) Interface Team: Public Report, Vol. II, NOSC, pp. 30-1 to 30-59, October 1982.
- Lindquist, T.E., and D.H. Johnson, "An Empirical Evaluation of the Relationship Between Programmer Performance and Scoping Strategies," Virginia Tech Computer Science Technical Report, TR81022a, August 1981.

## **3.0 Research Support**

### **3.1 Arizona State University:**

- App Maker Pro (AMP): Motivating STEM Study through App Development; \$1,199,000, Carole Greenes PI, Lindquist, T Co-PI, with 3 other faculty; National Science Foundation (NSF-EHR-DRL), June, 2015- May, 2018.
- Mobile Apps for Rapid Epidemiological Analysis, Lindquist (ASU PI), Tridane (CoPI), \$50,000; period December 2011 to May 2012. ASU as subcontractor to Renaissance Sciences Corporation in this award (total \$150,000) by the Office of the Secretary of Defense (OSD). Small Business Innovative Research Phase-I award.
- Prime the Pipeline Project (P3): Putting Knowledge to Work, \$1.3M, Sept. 2008-11; NSF, PI Carole Greenes, Co-PI's Colleen Megowan-Romanowicz, Sethuraman Panchanathan, Timothy Lindquist, and Lakshmi Munukutla; Deborah Toolson as Project Director.
- Performance Testing of Java Runtimes on Limited Devices, \$30,000, June 2004 - December 2006, Responsibility: Principal Investigator, IBM/Object Technologies Incorporated.
- Performance Testing of Java Runtimes on Limited Devices, \$30,000, May 2003-May 2004, Responsibility: Principal Investigator, IBM/Object Technologies Incorporated.
- Center Planning Grant for NSF Program on Computer and Network Security Research, \$100,000, Feb. 2003-Feb. 2004, Responsibility: one of 3 co-pi's, SS Yau PI, ASU VP for Research.
- Realizing PCIS2 Process Services, \$80,000, January 1999 to May 2000, Responsibility Principal Investigator, Navy SSC San Diego through San Diego State University Foundation.
- PCIS-II: Distributed Component-Based Software Engineering, \$100,000, September 1997 to December 1998, Responsibility Principal Investigator, Office of Naval Research and NRaD San Diego.
- Assessing PCTE, CORBA and WWW, \$271,280, May 1996 to September 1997, Responsibility Principal Investigator, The Office of Naval Research and NRaD San Diego.
- Non-Intrusive Testing of Embedded Ada, \$60,000, May 1993 to August 1994, Responsibility: Principal Investigator, Hughes Aircraft Co. (Wright Air Force Labs).
- Technical Support in the area of PCIS Standardization, \$217,797, September 1992 to December 1995, Responsibility: Principal Investigator, Institute for Defense Analyses (NATO PCIS Programme).
- Testing the CIVC and the CAIS Operational Definition, \$57,354, August, 1988-November, 1989,

Responsibility: Principal Investigator, The Analytic Sciences Corporation (Ada Joint Program Office).

A Performance Study of Ada Runtime Environments, \$20,000, June 1987 to December 1987, Responsibility: Co-Principal Investigator (R.G Fainter as PI), McDonnell Douglas Helicopter Company.

Ada Interface Validation and the CAIS Operational Definition, \$99,300, May 1987 to May 1988, Responsibility: Principal Investigator, Institute for Defense Analyses (Ada Joint Program Office).

Operational Semantic Definition of the Common APSE Interface Set, \$145,540, January 1986 to December 1986, Responsibility: Principal Investigator, Institute for Defense Analyses (Ada Joint Program Office).

### **3.2 Virginia Tech:**

Preliminary Operational Semantic Definition of the Common APSE Interface Set, \$54,000, June 1985 to September 1985, Responsibility: Principal Investigator, Office of Naval Research (Ada Joint Program Office)

INTEL 432 DeBug Workstation (with J.G. Tront and D.G. Kafura), \$94,000, June 1983, equipment grant from INTEL Corp.

The Specification and Validation of KAPSE Support Facilities and Validation Techniques for Asynchronous Facilities, \$80,816, July 1984 to July 1985, Responsibility: Principal Investigator, Office of Naval Research (Ada Joint Program Office)

Continued Study of Validation in Ada Programming Support Environments, \$106,540, July 1983 to July 1984, Responsibility: Principal Investigator (Co-PI's JAN Lee and DG Kafura), Office of Naval Research (Ada Joint Program Office)

A Preliminary Study of the Validation Needs for an APSE, \$20,000, June 1982 to September 1982, Responsibility: Principal Investigator (Co-PI's JAN Lee and DG Kafura), Office of Naval Research (Ada Joint Program Office)

Human-Computer Interactions and Decision Behavior, \$1,305,000, January 1980 to September 1983, Responsibility: Faculty director on 1 of the 5 Technical Tasks Titled: Human-Software Engineering, Office of Naval Research

## **4.0 Professional Memberships and Activities**

### **4.1 Professional Societies, Awards, and Honor Societies:**

2003 Professor of the Year, Corporate Leaders Program, Arizona State University

Member Association for Computing Machinery

Past Member IEEE Computer Society

Member American Society for Engineering Education

1979 Initiated Sigma Xi, Iowa State University.

1977 Initiated Phi Kappa Phi, Iowa State University.

### **4.2 Participation on Committees, Panels and Conferences:**

Mini-Track Co-Organizer and Co-Chair with JG Tront and R Marchany; "Internet Security: Intrusion Detection and Prevention in Mobile Systems"; Proc. 42nd Annual Hawaii Int'l Conf on Systems Sciences, ACM, IEEE Computer Society, January 2009.

Panel Organizer and Chair; "Web Applications and Web Services: Supporting Technologies"; Int'l Symposium on Applications of the Internet (SAINT03), IEEE, Orlando FL, Jan. 2003.



Curriculum Committee Chair, Embedded and Inter-Networked Technologies, An ASU, INTEL, Motorola joint funded Consortium. Duties include oversight of solicitation, selection and completion of Curriculum Development Projects (4 projects per year totaling roughly \$200,000), 2000-2003.

Program Committee Chair, PCTE '94 International Conference, sponsored by PIMB, Nov., 1994.

Workshop Committee and Working Group Co-chair for the session, "How Do You Pronounce OO-ERA-RDBMS?" ACM/IEEE Symposium on Environments and Tools for Ada (SETA-2), January 1992.

Portable Common Interface Set (PCIS) Expert Team. Sponsor: NATO Tri-Service Group on Communications and Electronics, Special Working Group on Ada Programming Support Environments. USA participation funded through the Ada Joint Program Office and Institute for Defense Analyses; 1991 - December 1993; member of Architecture Team and Team Editor for 2 of 4 specifications.

Government Technical Review Team for Standard Ada Environment Kernel Interface - CAIS (MIL-STD-1838-A) 1986-88.

Phoenix Conference on Computers and Communications '86, Panel Member: Factors affecting the choice of a Programming Language for Software Development, March 1986.

APSE E&V Team Workshop, Organize and Chair the APSE Reqs., Evaluation Panel, April 1984.

Software Technology for Adaptable, Reliable Systems (STARS) Planning Workshop, DoD - ACM SIGSOFT (Special Interest Group on Software Engineering), Panel Member Human Engineering Task, February 1983.

Ada Programming Support Environment Evaluation and Validation (APSE E&V) Team, Invited Technical Member to the Ada Joint Program Office and Wright-Patterson AFB Team, 1983-1990; chaired Requirements Working Group (84-85), Standards Evaluation and Validation Working Group (87-90).

ACM AdaTEC Conference, Co-chair with JAN Lee and T. Probert, Birds-of-a-Feather Session - Validation in Ada Environments, October 1982.

Conference on Human Factors in Computer Systems, ACM-NBS (National Bureau of Standards), Session Organizer - Research Methodology, March 1982.

Member of the Kernel Ada Programming Support Environment Interface Team Industry/Academia (KIT/KITIA) sponsored by the Ada Joint Program Office and Naval Ocean Systems Center, 1982-1987; chaired Compliance Working Group (83-85); User Support Services (83).

20th Annual Technical Symposium of the Washington D.C. Chapter of ACM (Association for Computing Machinery), Session Organizer -- Innovation in Decision Making, June 1981.

### **4.3 Presentations and Invited Lectures:**

(For papers presented at conferences, see separate listing of conference and other papers)

ASU Polytechnic: Embracing Industry Partnerships in Professional Education, invited presentation at Future of Manufacturing Congress, Montreal Canada, August 2007.

Benchmarking Java and C# Runtimes to support Distributed Applications for Limited-Devices, invited seminar, Computer Science Department Cal Poly San Luis Obispo, April 2006.

Frameworks for Web Services and Distributed Objects, invited seminar, Computer Science and Engineering, Arizona State University, November 2002.

PCTE a System and ECMA Standard, Not an Industry Force, presented at the 20 Year PCTE Anniversary Meeting, Paris France October 2002.

Research and Curriculum Development in Distributed Web-Based Applications, invited presentation, Department of Electronics and Computer Engineering Technology, Arizona State Univer-

sity East, April 2000.

- Distributed Application Development with Java and Associated Frameworks, 1-day Professional Development Seminar presented by Lindquist, T. and Koehnemann, H. at 23rd Intl. Conf. on Computer Software and Applications (COMPSAC'99), in Phoenix, October 1999.
- PCTE: Lessons for Transitioning Technology - Object Management Systems, invited presentation at, The 12-th Int'l Conf. on Software and Software Engineering Applications (ICSSEA '98), CNAM, Paris France December 1998.
- Ada9X, The Changes from Ada83 and Their Importance and: Challenges in Testing Embedded Systems, University of Nancy, CRIN, Nancy France, May 1993.
- "The Object Management Group and PCTE", Presentation at the Portable Common Interface Set Team Meeting, San Diego California, December, 1993.
- "The PCIS Programme", Presentation at the opening Plenary session of PCTE'93. Session title was "PCTE Around the World"; Session Organizer, Ian Campbell - Emeraude. Paris, Nov., 1993.
- "An Integrated Approach to Adding Object-Orientation and Fine-Grained Information Management on Top of PCTE", Presented at the North American PCTE Initiative Meeting, Washington, D.C., September, 1993.
- "Object-Oriented Services in a Software Engineering Environment Framework, Presented at INTEL Corp, Chandler AZ, April, 1993.
- "An Automated Hyper-Document System for PCIS", Presentation at the Portable Common Interface Set Team Meeting, Paris France, September 1992
- "CORBA and its Implication on the PCIS Programme", Presentation at the Portable Common Interface Set Team Meeting, San Diego, December 1992
- "Ada and Its Impact on Software Engineering," The Analytic Sciences Corp., February 1990.
- "Issues and Strategies in the Evaluation and Validation of the Common APSE Interface Set Revision-A," APSE Evaluation and Validation Team Meeting, September 1989.
- "Will Ada Work in Embedded Real-Time Systems? Still the Question. Phoenix Chapter of ACM/IEEE, invited lecture, March 1987.
- "Transitioning to Ada for Real-Time Embedded Systems," 1-day seminar at the Naval Air Test Center Patuxent River MD, April 1987.
- "Transitioning to Ada for Real-Time Embedded Systems," Human Resources Lab, Williams AFB AZ, invited lecture June 1987.
- "The CAIS Operational Definition," presented at the APSE Evaluation and Validation Team Meeting, Wright-Patterson AFB, September 1986.
- "Ada Interface Validation," a 1-day seminar given at Arizona State University for funding agency (IDA) and other interested persons on the technical accomplishments of the research project: "Research in Ada Interface Validation and the Common APSE Interface Set." Dec 86
- "An Implementation of Ada Tasking in a Multiprocessor Shared Memory System," Presented at: Michigan State University, Pennsylvania State University, University of California at Davis, University of Oregon, University of Vermont, Virginia Tech, January to June 1985.
- "Criteria for Identifying Releases of a Software Engineering Environment," Joint Services Software Engineering Environment Team Meeting, March 1985.
- "An Operational Semantic Definition of the Common APSE Interface Set," Presented at: Wright-Patterson AFB, January 1985, KIT/KITIA Meeting, San Diego CA, January 1985, APSE Evaluation and Validation Team Meeting, Wright Patterson AFB, June 1985, Institute for Defense Analyses, Washington D.C., September 1985.
- "Using Symbolic Execution to Generate Validation Tests for the CAIS," presented at: APSE Eval-

uation and Validation Team Meeting, Wright-Patterson AFB, September 1985, Georgia Tech Software Engineering Research Center, November 1985,

“Using Abstract Machines to Describe the Functionality of the Common APSE Interface Set,” Presentations at: Virginia Tech Computer Science Seminar, November 1983, KIT/KITIA Meeting, San Diego CA, January 1984, and APSE E&V Team Meeting, Dayton OH, March 1984.

“The Common APSE Interface Set Node Model and its Specification,” Virginia Computer Users Conference, Blacksburg VA, April 1984.

“A Functionality-Based Taxonomy of an APSE,” IDA Usability Workshop, Wash D.C., May 84.

“Human Engineering the Programmer's Computer Interface,” Software Technology for Adaptable, Reliable Systems (STARS) Planning Workshop, Raleigh NC, February 1983.

“An Introduction to Ada,” Topical Introduction at Virginia Computer Users Conference (VCUC), Blacksburg VA, April 1983.

“Kernel Interface Requirements Based on User Needs,” KITIA Meeting, San Diego CA, Feb. 82.

“KAPSE Validation: A Step Toward Transportability,” KIT/KITIA Meeting and ACM AdaTEC Meeting, Boston MA, June 1982.

“The Smart Funnel: An Approach for Gaining Consistency in the APSE-to-User Interface,” ACM 1982 Annual Conference, Dallas Texas, October 1982.

“User Concerns in a Magnetic Tape Cartridge Copy System,” SCEEE (Southeast Center of Electrical and Electronics Engineers) Declaring-Program Workshop, Dahlgren VA, December 1981 and Orlando FL, February 1982.

“Human-Computer Interactions and Decision Behavior,” Software Psychology Society Meeting, Washington D.C., January 1981.

“Programming Environments and Related Human-Computer Issues,” Bell Laboratories, Murray Hill NJ and Hunter College, New York, May 1981.

Invited Visiting Professor, North Texas State University, May 1981. Lectures included:

- ”Human-Computer Dialogue Design”
- ”Designing and Managing Human-Computer Interfaces”
- ”Using Voice Input and Output: What are the Issues?”
- ”Humanizing the Programming Task”
- ”Programming Environments”

“Writing in Computer Science: Program Composition and English Composition,” Faculty Writing Workshop, Virginia Tech, August 1980.

“Toward Verifying Software for Reliability,” Presentations at: Michigan Tech, Bell Laboratories, Murray Hill NJ and Denver CO, University of New Hampshire, Indiana University, Virginia Tech, Duke University, and Iowa State University, Spring 1979.

#### **4.4 Consulting Activities:**

The Portable Common Tool Environment (PCTE) Interface Management Board (PIMB), 1998-01. North American PCTE Initiative; PCTE Conformance Study, OMG PCTE SIG, Research in Automated Process Support, Sponsor - Software Engineering Institute CMU '94-95.

Technical Support for NATO PCIS project; Consulting and adjunct member of technical staff, Institute for Defense Analyses, 1991 to 1993.

Software Engineering Training Program. 12-week full-time hands-on course for retraining engineers as software engineers. Motorola Government Electronics Group, Scottsdale, AZ. (with T. Mellon and J.S. Collofello) 3 offerings during 1989 and 1990; Magnavox; Ft. Wayne 1991.

Software Engineering and Embedded Systems with Ada. 64-hour hands-on course given at Naval

Air Test Center, Patuxent River MD, 1989.

An Introduction to Design and Programming with Ada. 40-hour Short Course given at Motorola Inc. through The ASU Center for Professional Development, (with J.S. Collofello), Several offerings 1987-1989.

Requirements and Design of a Magnetic Tape Copy System, Naval Surface Weapons Center, Dahlgren VA, (with J.G. Tront), 1981, 1982.

Pascal for Fortran Programmers, Naval Surface Weapons Center, Dahlgren VA -- Short Courses (with D.C.S. Allison), 1980, 1981.

Software Development Training, U.S. Army Foreign Science and Technology Center, Charlottesville VA, (with T.C. Wesselkamper,) 1979.

## **5.0 University Administration and Other Service Activities:**

### **5.1 Academic Unit and Curricular Innovation and Development**

In the period 2009-, With Dr. Kevin Gary, Dr. Lindquist was responsible for leading the creation of the BS Software Engineering program at ASU at the Polytechnic campus. The program's aim is to provide students a flexible and engaging education in software engineering that is primarily project-driven. The program includes a multi-year software enterprise project experience that is fused with learning a software engineering application area. Students take a common first year with BS Engineering majors, and the program includes a secondary focus area that may be in computing or another discipline. The program first enrolled students in fall semester 2011.

In the period 2002 through 2004, Dr. Lindquist was primarily responsible for development and approval of organizational changes in establishment of the Division of Computing Studies ASU at the Polytechnic campus. In associated actions he has led the approval and establishment of the BS Applied Computer Science, BS Computer Systems, and Master of Computing Studies programs offered by the Division. The associated proposals, were approved by the Arizona Board of Regents in November 2003 and June 2004, as part of a cooperative effort with Computer Science and Engineering at ASU Tempe to improve the variety, capacity and quality of computer science offerings at ASU. At its inception, the Division of Computing Studies offered 2 bachelor's programs that are designed to be accredited through ABET Computing Accreditation Commission, and Master of Computing Studies.

From December 2003 through 2005, Dr. Lindquist has led creation of the academic infrastructure to institutionalize the Division of Computing Studies. This includes establishment of faculty processes, such as by-laws, standing committees, coordination of promotion and tenure criteria, establishing faculty research and development policies, industry relations and advisory board, curricular establishment - course and catalog entries, research and teaching laboratory planning, as well as program and unit assessment and improvement plans.

### **5.2 Arizona State University Tempe (Computer Science and Engineering):**

Associate Chair for Academic Programs (1995-1996); Oversight of graduate admissions and programs; Undergraduate academic programs, advising, and standards; Primary responsibility for academic course scheduling, curricular oversight, and faculty teaching assignments.

Computing Resources Committee - Departmental Committee., Chair 1996, 1997

University Information Technology Academic Computing Advisory Committee - University Committee, Member 1996-1999; Chair spring semester 1997 and academic year 1998-99

College of Engineering and Applied Sciences Academic Standards Committee - College Committee, Member 1996, 1998, Chair 1999  
College of Engineering and Applied Sciences Task Force for Community College Articulation, Member 1996  
Dean's Personnel Advisory Committee - College of Engineering and Applied Sciences, Member 1998-2000  
Technology in the Curriculum-College, Member 1995, 1997  
Executive Committee-Dept., Chair 1994.  
Undergraduate Affairs Committee-Dept., Member 1993-1999. Chair 1999  
Task Group on Computing and Technology in the Curriculum-Dept., Chair 1994  
Graduate Council-College of Engineering and Applied Sciences, Member 1993-94  
Computer Science and Engineering Retention, Promotion and Tenure Committee-Dept., Chair Fall 1989 till Spring 1991.  
Graduate Admissions Committee-Dept., Chair 1986, 1987.  
Graduate Affairs Committee-Dept., Member 1985, 1995, Chair 1987.

### **5.3 Virginia Tech (Computer Science):**

Undergraduate Program Committee, member 1979-1980 and 1981-1982, chair 1980-1981.  
Department Head Search Committee 1981.  
Department Executive Committee 1982-1985.  
ACM Student Chapter Advisor 1983-1984.

### **5.4 Iowa State University -- Graduate Student Member of:**

Colloquium Committee 1978-1979.  
Faculty Committee 1977-1978.  
Curriculum Committee 1976-1977.

### **5.5 Disciplinary Service and Paper Reviewing:**

Co-chair of mini-track 42-nd Annual Hawaii International Conference on Systems Sciences. Mini-track theme is intrusion detection and prevention in mobile devices, 2008-09. Same capacity at HICSS 43 (2009-10).  
Member of Computing Accreditation Commission (CAC), and Team Chair for Computer Science Visits, Accreditation Board for Engineering and Technology (ABET), 2010-  
Program Evaluator for Accreditation Board for Engineering and Technology (ABET) Computing Accreditation Commission (CAC) Computer Science 2005-  
Member Accreditation Board for Engineering and Technology (ABET) Computing Accreditation Commission (CAC) July 2009. Serves as computer accreditation visit team chair beginning in Fall 2009.  
IEEE Software  
Int'l Journal of Man Machine Studies  
NSF Instructional Scientific Equipment Program,  
Various Conferences  
Program Committee Chair for PCTE'94 Conference

## **6.0 Graduate Student Advising:**

### **6.1 Ph.D. Dissertation Supervision**

Kevin Gary, Ph.D. January 1999, "Open Process Components." (CSE Arizona State University)

Ly D. Sauer, Ph.D. May 1999, "Brokering Process Components." (CSE Arizona State University)

Harry Koehnemann, Ph.D. Dec. 94, "Run-Time System Extensions for Embedded Testing and Debugging Tools." (CSE Arizona State University)

Perry Reinert, Ph.D. Dec. 94, "A Specification and Implementation Paradigm for Control Integration." (CSE Arizona State University)

Youngdon Kang, Ph.D. May 94, "Type Evolutions of Object Management Systems in Software Engineering Environments." (CSE Arizona State University)

Wah Dal Song, Ph.D. May 1992, "Formal Descriptions of Object Management Systems in Software Engineering Environments." (CSE Arizona State University)

Patricia Lawlis, Ph.D. 1989, "Automated Support for Evaluating APSE's." (CSE Arizona State University)

In Sup Kwon, Ph.D. 1989, "Using Environment Types to Manage Inter-Tool Communication in an APSE." (CSE Arizona State University)

Robert G. Fainter Ph.D. 1985, "AdaTAD: A Debugger for Ada Programs with Tasks." (CS Virginia Tech)

## **6.2 Masters Thesis and Project Supervision at Arizona State University:**

During the period September 2000 through December 2014, supervised 67 Master of Science in Software Engineering and Master of Computing Studies, culminating student projects (3 or 6 credit projects including final report and defense to faculty committee).

During the period 1996 to 2000, supervised 41 Master of Computer Science (MCS) final projects (3 credit projects with final report) for Department of Computer Science ASU Tempe.

In addition, supervised (chaired) the following Masters Theses.

Huiying Li, MS in Technology, December 2003, Thesis Title: "A Comparison of Distributed Web Applications Between J2EE and Microsoft .NET."

Sateesh Ayyagari, MS in Technology, December 2003, Thesis Title: "Interoperability Issues between .NET and Java Platforms for an On-Line Quiz Application."

Kun Song, MS in Technology, May 2003, Thesis Title: "Analyzing Transactions on JINI and JavaSpaces."

Hualiang Yu, MS in Computer Science, May 2001, Thesis Title: "Using JavaBeans for Distributed Configuration Management on JINI and JavaSpaces"

Ariela Stern, MS May 1994, "Analyzing a Persistent Object Definition Language"

Donna Izzo, MS, May 1993, "Adapting the Application to the User: A Presentation Object Broker",

Chuck Stevens, MS, May 1993, "Combining the Use of Mutation Testing and Fault Tree Analysis in Validation of Safety Related Software",

Raghu Mannam, MS, March 1992, "A Software Engineering Tool Environment for Adaptability",

Bruce W. Nelson, MS 1991, "Design and Prototype of an Object-Oriented Visual Programming System."

Vickey Wood, MS 1990, "Symbolic Execution of Ada Exceptions."

Pam Merrick, MS 1989, "A Study of the Debugging Facilities Used by Programmers."

Joel Jones, MS 1989, "A System for Visualizing Data Structures in C Programs."

Chuh Yu Lin, MS 1989, "Semantic Processing of the Environment Type Definition Language."

Donald P. Levine, MS 1988, "Toward the Production and Application of an Environment Type

Definition Processor,”

Mark A. Norman, MS 1988, “IOGen: Toward and Automated Tool for Production of Reliable and Valid Test Suites.”

Yuning Cai, MS 1988, “An Ada-based System for the Development of User-Computer Interfaces.”

Dale Clark, MS 1988, “Input and Output Facilities in CAIS Operational Definition.”

Mei-Lin Grace Ting, MS 1987, “Design of the Programming Environment on the CAIS Node Model,”

Lynn M Coffman, MS 1987, “Generating Test Programs for Ada Package Interfaces,”

Jian Liu, MS 1987, “Lexical Analyzer Generator and Parser Generator Using Ada,”

Joyce R. Jenkins, MS 1986, “Automated Generation of Input/Output Pairs for the CAIS Validation Test Suite,”

David N. Barlow, MS 1986, “Command Language Interpreter for Common APSE Interface Set,”

Kathleen C. Edge, MS 1986, “Automating Software Analysis with Adaptive Systems Based on Neural Network Models,”

Ko-Shou Lin, MS 1986, “Explicit Control for Distributing CAIS Environment Processes,”

### **6.3 Master Thesis Supervision At Virginia Tech (Computer Science):**

Kimberly A. Coleman, MS 1986, “Validation Test Generation: Common APSE Interface Set,”

James T. Fortune MS 1985, “Extensions to the Interactive Programming Environment PEEP.”

Margaret D. Little MS 1985, “Abstract Machine Specification for the Node Model of the Common APSE Interface Set (CAIS).”

Doug Bower MS 1985, “Access Mechanisms in the Common APSE Interface Set.”

Jeffrey L. Facemire MS 1984, “A Technique for the Specification and Validation of the Common APSE Interface Set.”

Chandra S. Srivastava MS 1984, “Abstract Machine Specifications for the Process Node Model of the Common APSE Interface Set (CAIS).”

Lawrence A. Crowl MS 1983, “A Macro System for English-Like Commands.”

Richard C. Joyce MS 1983, “Ada Tasking for an INTEL 80286 Multiprocessor Environment.”

Sue R. Guy MIS 1982, “The Design and Implementation of the Generic Interactive Environment's Experiment Profile Process and User Aircraft Control Process.”

John W. Hoernemann MIS 1982, “The Design, Implementation, and Application of a Human-Computer Voice Input System.”

Cyril Shiu-Chin Ku MS 1982, “The Design and Implementation of a Language Environment for Evaluating the Programming Task.”

## 7.0 Curriculum and Course Development

Dr. Lindquist has developed the following new courses at ASU at the Polytechnic campus:

- Cst 502 Emerging Language and Programming Paradigms, Core course in Master of Computing Studies program covering programming language design, paradigms, and implementation.
- Distributed Applications and Web Services with C# and .NET Framework (course title: Cst 556 Distributed Applications for Windows Platforms)
- Cst 420 Foundations of Distributed Web-Based Applications. Re-design Fall 2009.
- Cst 427 Distributed Object Systems
- Cst 428 Web Client User Interface Programming (with Richard Whitehouse)

Dr. Lindquist developed the following new courses at ASU Computer Science and Engineering:

- Cse 560 Software Engineering,
- Cse 445 Distributed Computing with Java and CORBA (with HE Koehnemann),
- Cse 446 Client-Server User Interfaces,
- Cse 562 Software Process Automation,

Dr. Lindquist has developed on-line course support tools that apply the technology he teaches to the classroom. These tools include XML based quiz generation, servlet grading system, authentication, assignment uploading, grade reporting and scheduling software.

As Associate Chair for Academic Programs, Dr. Lindquist coordinated curricular additions and changes to over 20 courses in the Computer Science and Engineering undergraduate and graduate programs. From 2000-02 at ASU at the Polytechnic campus, he coordinated a complete re-work of the BS Computer Engineering Technology program.

As Associate Chair for Academic Programs in the Department of Computer Science and Engineering, Dr. Lindquist coordinated the generation of the Departmental Self-Study report, in preparation for program review and ABET accreditation visit in 1996.

### 7.1 Courses Taught at Arizona State University

CST 502 Emerging Language and Programming Paradigms  
CST 420 Foundations of Distributed Web-Based Applications  
CST 556 Distributed Applications for Windows  
CST 427/598 Distributed Object Systems  
CST 200 Object-Oriented Software Development II  
EET 591 Graduate Seminar  
CSC 340 The Principles of Programming Languages  
CSC 440 Compiler Construction  
CSE 445/494 Distributed Computing with Java and CORBA  
CSC 457 Introduction to Formal Languages  
CSE 462 Software Engineering Project II  
CSC 545 Programming Language Design  
CSE 560 Software Engineering  
CSE 562 Software Process Automation  
CSC 565 Software Reliability and Testing  
CSC 591 Software Engineering Environments  
CSC 591 Automated Support for Workflow Definition and Enactment



## **7.2 Courses Taught at Virginia Tech**

CS 6690 Program Verification  
CS 6690 Human Factors in Programming Systems  
CS 5611 Compiler Construction I  
CS 5612 Compiler Construction II  
CS 5300 Information Structures  
CS 4990 Senior Seminar - Ada  
CS 4520 Formal Languages  
CS 3662 Compiler Construction  
CS 3661 Programming Systems I  
CS 3302 File Manipulation  
CS 3301 Data Structures

## **7.3 Courses Taught at Iowa State University**

CS 322 Machine Organization and Assembly Language Programming  
CS 261 Data Structures  
CS 110 Computer Programming in SNOBOL