

Richard Newton Taylor

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Education

Ph.D., Computer Science, University of Colorado at Boulder; December 20, 1980.
Static Analysis of the Synchronization Structure of Concurrent Programs
M.S., Computer Science, University of Colorado at Boulder, 1976.
B.S., with Special Honors, Applied Mathematics, University of Colorado at Denver; 1974.

Honors

ACM Fellow, 1998
ICSE 2004 Distinguished Paper Award
2005 ACM SIGSOFT Distinguished Service Award

Professional Interests

Software Engineering
Software architectures
Hypermedia
Software engineering environments

Professional Experience

1/03 — present,
Professor, School of Information and Computer Science
1/03 — 6/04.
Chair, Department of Informatics, School of Information and Computer Science
7/99 — present.
Director, Institute for Software Research, University of California, Irvine.
7/91 — 12/02.
Professor, Department of Information and Computer Science, University of California, Irvine.
7/93 — 6/99.
Director, Irvine Research Unit in Software, University of California, Irvine. (Acting, 7/93 — 6/94)
3/95 — 7/95.

Professeur invité, Institut National de Recherche en Informatique et en Automatique (INRIA), Sophia-Antipolis, France.

7/85—6/91.

Associate Professor, Department of Information and Computer Science, UCI.

9/87—8/88.

Visiting Researcher (Chef du Project), INRIA Sophia-Antipolis, France.

7/82—6/85.

Assistant Professor, Department of Information and Computer Science, UCI.

1/81—6/83.

Assistant Professor, Department of Computer Science, University of Victoria (On Leave 1982-1983).

9/79—12/80.

Graduate Student/Research Assistant, University of Colorado at Boulder.

9/77—9/79.

Senior Software Engineer, Boeing Computer Services (BCS), Seattle, Washington.

9/76—5/77.

Graduate Student/Teaching Assistant, Department of Computer Science, University of British Columbia.

9/74—9/76.

Analyst/Programmer, U.S. Bureau of Reclamation, Denver, Colorado.

Consulting and Advisory Boards

6/04—8/05 Klarquist Sparkman, LLP

4/03—6/05 Morrison & Foerster, LLP

9/00— KnowNow Technical Advisory Board

9/01 —10/01 NASA's Jet Propulsion Laboratory: Mission Data Systems Technical Review Board

3/01 — 6/01 Quinn, Emanuel, Urquhart, Oliver & Hedges LLP

7/00— 9/01 Endeavors Technology, Inc.

4/98—12/98 Northrop-Grumman Corporation

11/97—4/98 U.S. Army TACOM, Michigan.

2/95—6/95 Aesthetic Solutions, California.

10/91—9/94 IBM/Loral Federal Systems, Owego, New York.

9/91—9/92 TRW, Redondo Beach, California.

11/89—6/90 Nimble Computer Corporation, Encino, California.

8/88—2/89 Telesoft, San Diego, California.

8/88 TRW, Redondo Beach, California.

8/88 Institute for Defense Analyses, Arlington, Virginia.

10/87; 4/88 GSI—TECSI Industrie, Paris, France.

3/83—9/88 The Aerospace Corporation, El Segundo, California.

7/84 ITT Advanced Technology Center, Stratford, Connecticut.

10/83 Research Triangle Institute, Research Triangle Park, North Carolina.

7/83 Joint System Development Corporation, Tokyo, Japan.

9/79—1/82 Boeing Computer Services Company, Seattle, Washington.

Professional Service and Activities

Conference Chairmanships/Organization

Organizing Committee, International Workshop on Environments (September 17—20, 1989), Chinon, France. Sponsored by Ada-Europe.

Program Chair, SIGSOFT '90: Fourth ACM SIGSOFT Symposium on Software Development Environments (December 3—5, 1990, Irvine).

Program Chair, 1992 DARPA Software Technology Conference (April 28—30, 1992, Los Angeles, CA). Sponsored by the Defense Advanced Research Projects Agency.

Program Co-Chair, Irvine Software Symposium, 1993. (April 30, 1993).

Program Co-Chair, Workshop on User Interfaces and Software Engineering. Held in conjunction with the 16th International Conference on Software Engineering (May 1994).

Program Co-Chair, 1997 International Conference on Software Engineering (May 1997).

General Chair, 1999 International Conference on Work Activities Coordination and Collaboration. Sponsored by ACM SIGCHI, SIGGROUP, SIGMOD, and SIGSOFT (February 1999).

General Chair, 2004 International Symposium on the Foundations of Software Engineering.

Offices Held

Chairman, SIGSOFT Nominations Committee, 1997.

Chairman, SIGSOFT Distinguished Research Award Committee, 1997

Chairman, SIGSOFT Distinguished Service Award Committee, 1995-1997.

ACM Software System Award Committee, 1990—1995. Chair, 1993—1994.

Chairman, ACM Special Interest Group on Software Engineering (SIGSOFT) (National), 1989—93.

Vice-Chairman, ACM SIGSOFT, 1987—89.

Steering Committee, International Conference on Software Engineering, 1989—2005.

Chairman, Steering Committee for the International Conference on Software Engineering, 1998-2000.

Executive Committee of the IEEE Computer Society Technical Committee on Software Engineering, 1985—1986.

Editorial Boards, Panel Service

University of Alberta Computer Science Department External Review Team, April 2003.

NSF Directorate for Computer and Information Science and Engineering Advisory Committee (CISE AC). 1/1/00 – 4/30/03.

University of Colorado Advisory Committee, 2000-2003.

Journal of Software Testing, Verification, and Reliability, published by John Wiley and Sons Ltd. (1990 — 2000)

IEEE Transactions on Software Engineering. (12/91—4/95; Guest Editor, 1998).

Panelist, COSEPUP (Committee on Science, Engineering, and Public Policy, a joint unit of the National Academies), *Capitalizing on Research Leadership in Software*. (March 1996)

University of Colorado at Boulder, Computer Science Advisory Board, March 1998.

Conference Program Committees

Second International Symposium on Ada Applications and Environments (April 8—10, 1986, Miami). Sponsored by IEEE.

Sixth International Conference on Distributed Computing Systems (May 19—23, 1986, Cambridge, Massachusetts).

Workshop on Software Testing (July 15—17, 1986, Banff, Alberta, Canada).

1986 International Conference on Computer Languages (October 27—30, 1986, Miami).

Second Symposium on Practical Software Development Environments (December 9—11, 1986, Palo Alto). Sponsored by ACM SIGSOFT and SIGPLAN.

Ninth International Conference on Software Engineering (March 31—April 2, 1987, Monterey). Sponsored by ACM and IEEE.

Tenth International Conference on Software Engineering (April 11—April 15, 1988, Raffles City, Singapore). Sponsored by ACM and IEEE.

Second Workshop on Software Testing, Verification, and Analysis (July 19—21, 1988, Banff). Sponsored by ACM SIGSOFT and IEEE.

Third ACM SIGSOFT/SIGPLAN Symposium on Software Development Environments (November 28—30, 1988, Boston). Sponsored by ACM SIGSOFT and SIGPLAN.

Third Workshop on Software Testing, Analysis, and Verification (December 13—15, 1989, Key West). Sponsored by ACM SIGSOFT.

Twelfth International Conference on Software Engineering (March 26—30, 1990, in Nice, France). Sponsored by ACM and IEEE.

Workshop on Parallel and Distributed Debugging (March 1991). Sponsored by ACM SIGPLAN and ACM SIGOPS.

Third European Software Engineering Conference— ESEC '91 (October 21—24, 1991, Milano).

Workshop Committee, Second Symposium on Environments and Tools for Ada (SETA2) (January 29-31, 1992). Sponsored by ACM SIGAda.

Advisory Committee, Second Conference on Computers, Freedom, and Privacy (March 18-20, 1992).

First International Workshop on Hardware-Software Codesign (September 9—11, 1992).

ACM SIGSOFT '92: Fifth Symp. on Software Development Environments (Dec. 9—11, 1992).

1994 International Conference on Software Engineering (May 1994, Sorrento, Italy). Sponsored by ACM and IEEE.

ACM SIGSOFT '94: Foundations of Software Engineering (December 1994, New Orleans).

1996 International Conference on Software Engineering (April 1996, Berlin). Sponsored by ACM and IEEE.

ACM SIGSOFT '98: Foundations of Software Engineering (November 1998, Orlando).

3rd International Workshop on Software Architectures (ISAW-3) (November 1998, Orlando).

1999 International Conference on Software Engineering (Los Angeles). Sponsored by ACM and IEEE.

Coordination '99 (April 1999, Amsterdam).

NSF Software Engineering Research Strategies Workshop, Los Angeles, August 1999.

2000 International Conference on Software Engineering (June, 2000, Limerick, Ireland). Sponsored by ACM and IEEE.

4th International Workshop on Software Architectures (ISAW-4) (June 2000, Limerick).

ACM SIGSOFT '00: Foundations of Software Engineering (November 2000, San Diego).

XSE2001. XML Technologies and Software Engineering (May 2001, Toronto, Canada)

WICSA 2001. The Working IEEE/IFIP Conference on Software Architecture (August 28-31, 2001 Amsterdam, The Netherlands)

CDSA 2001. Working Conference on Complex and Dynamic Systems Architecture (December 2001, Brisbane Australia)

2002 International Conference on Software Engineering (May 2002, Orlando). Sponsored by ACM and IEEE.

Mobile Teams 2002. International Workshop on Mobile Teamwork 2002, July 2-3, 2002 in Vienna, Austria. Co-located with the 22nd International Conference on Distributed Computing Systems (ICDCS 2002). Supported by the European Framework V Project MOTION

ICSE 2002 Workshop on Architecting Dependable Systems (May 2002, Orlando).

COMPSAC 2002 Workshop on Cooperative Supports for Distributed Software Engineering Processes. (August 2002, Oxford, U.K.)

2nd Workshop on Cooperative Supports for Distributed Software Engineering Processes, March 26-28, 2003

Formal Aspects of Software Engineering (FASE) Warsaw, Poland, from 5 to 13 April 2003.

2003 Symposium on the Foundations of Software Engineering/European Software Engineering Conference (ESEC/FSE). (September 2003, Helsinki).

2004 International Conference on Software Engineering (April 2004, Edinburgh).

WICSA 2005. The Working IEEE/IFIP Conference on Software Architecture. (November, 2005, Pittsburgh.).

ICSE 2006: SE Achievements and Challenges Track (May, 2006, Shanghai).

Memberships

Association for Computing Machinery (ACM) (since 1975)

IEEE Computer Society (since 1979)

Advisees

Ph.D. Committee Chair

Student	Graduation	Position
Steven Willson	12/86	Founder, <i>Above the Garage Productions</i>
	<i>Persistent Prototypes</i>	
Ray Klefstad	5/88	Lecturer University of California, Irvine
	<i>Maintaining a Uniform User Interface for an Ada Programming Environment</i>	
Michal Young	8/89 1991 NSF Presidential Young Investigator Awardee	Department Chair & Associate Professor Computer Sciences Department University of Oregon
	<i>Analysis Techniques for Software Fault Detection</i>	
Greg James (Co-Chaired with Richard Selby)	9/92	IMSL Corporation, Manager, Visualiza- tion Software
	<i>ProdUser: A Process for Designing User Interfaces</i>	
David Levine	6/93	Director, Center for Distributed Object Computing Washington University
	<i>Structural Reengineering for Static Concurrency Analysis</i>	
Dennis Troup	12/93	Independent Consultant
	<i>A User Interface Management System Architecture for Supporting Separation of Concerns and Extensibility</i>	
Patrick Young	6/94	Lecturer in Computer Science Stanford University
	<i>Customizable Process Specification and Enactment for Technical and Non-Technical Users</i>	
Holly Sharon Hildreth	6/96	TRW
	<i>Domain-Based Requirements and Safety Analysis for Process-Con- trol Software</i>	
John Thomas Self	6/96	Marconi Integrated Systems
	<i>Using Static Concurrency Analysis to Understand the Dynamic Behavior of Concurrent Programs</i>	
Kenneth Mark Anderson	6/97	Associate Professor University of Colorado, Boulder
	<i>Pervasive Hypermedia</i>	

Student	Graduation	Position
Gregory Alan Bolcer	12/98	Founder and CTO, Endeavors Technologies, Inc.
	<i>Flexible and Customizable Workflow Execution on the WWW</i>	
Neno Medvidovic	12/98	Associate Professor University of Southern California NSF CAREER Awardee
	<i>Software Architectures and Evolution</i>	
Peyman Oreizy	3/2000	Microsoft
	<i>Open-architecture Software: A flexible approach to decentralized software evolution</i>	
Roy Thomas Fielding	9/2000 1999 ACM Software Systems Award 2000 UCI Lauds & Laurels Outstanding Graduate Student	Chief Scientist Day Software
	<i>Architectural Styles and the Design of Network-based Software Architectures</i>	
E. James Whitehead, Jr.	9/2000	Assistant Professor University of California, Santa Cruz NSF CAREER Awardee
	<i>An Analysis of the Hypertext Versioning Domain</i>	
Robb Klashner	6/2002	Assistant Professor Information Systems Department New Jersey Institute of Technology
	<i>Using Architectural Style to Design and Evolve Complex Integrated Information Infrastructure</i>	
Rohit Khare	12/2003	Director, CommerceNet Labs.
	<i>Extending the REpresentational State Transfer (REST) Architectural Style for Decentralized Systems</i>	
Peter Kammer	5/2004	Endeavors Technology, Inc.
	<i>A Distributed Architectural Approach to Supporting Work Practice</i>	

Publications

Book Chapters and Articles

- BC-1** Osterweil, Leon J., L.D. Fosdick, and R.N. Taylor. Error and anomaly diagnosis through dataflow analysis. In *Program Testing*, ed. Chandrasekaran and Radicchi, North Holland, pp. 35-63 (1981).
- BC-2** Taylor, R.N. Analysis of concurrent software by cooperative application of static and dynamic techniques. In *Software Validation*, ed. Hans-Ludwig Hausen, Elsevier Science Publishers B.V. (North Holland), pp. 127-137 (1984).
- BC-3** Taylor, R.N. User interfaces and software engineering environments. In *Proceedings of the Workshop on Software Engineering and Human Computer Interaction: Joint Research Issues*, published by Springer-Verlag as Lecture Notes in Computer Science, Vol. 896, pp. 113—126 (1995).
- BC-4** Coutaz, J. and R.N. Taylor. Introduction to the workshop on software engineering and human-computer interaction: Joint research issues. In *Proceedings of the Workshop on Software Engineering and Human Computer Interaction: Joint Research Issues*, published by Springer-Verlag as Lecture Notes in Computer Science, Vol. 896, pp. 1—3 (1995).

Refereed Journal Articles

- J-1** Taylor, R.N. and L.J. Osterweil. Anomaly detection in concurrent software by static data flow analysis. *IEEE Transactions on Software Engineering*, Vol. SE-6, No. 3, pp. 265-278 (May 1980).
Reprinted in *Tutorial: Software Testing and Validation Techniques*, pp. 167—180, IEEE Computer Society Press (1981).
- J-2** Taylor, R.N. A general purpose algorithm for analyzing concurrent programs. *Communications of the ACM*, Vol. 26, 5, pp. 362-376 (1983).
Reprinted in *Concurrent Programming*, edited by Narain Gehani and Andrew McGettrick, Addison-Wesley (1988).
Reprinted in *Tutorial: Distributed Software Engineering*, edited by S.M. Schatz and Jia-Ping Wang, Computer Society Press of the IEEE (1989), pages 226—240.
- J-3** Taylor, R.N. Complexity of analyzing the synchronization structure of concurrent programs. *Acta Informatica*, Vol. 19, pp. 57-84 (1983).
- J-4** Taylor, R.N. An integrated verification and testing environment. *Software-Practice and Experience*, Vol. 13, pp. 697-713 (1983).
- J-5** Taylor, R.N. Debugging real-time software in a host-target environment. *Technique et Sci-*

ence Informatiques (Technology and Science of Informatics), Vol. 3, 4, 281-288 (1984).

This paper previously appeared as a refereed contribution in the Proceedings of the 2nd Software Engineering Conference, Nice, France, pp. 451-463 (June 1984).

- J-6** Taylor, R.N. and T.A. Standish. Steps to an advanced Ada programming environment. *IEEE Transactions on Software Engineering*, SE-11, Number 3, 302-310 (March 1985).
This paper previously appeared as a refereed contribution in the Proceedings of the 7th International Conference on Software Engineering, Orlando, FL, pp. 116-125 (March 1984).
- J-7** Brindle, A., R. Taylor, and D. Martin. A debugger for Ada tasking. *IEEE Transactions on Software Engineering*, SE-15, Number 3, 293—304 (March 1989).
Reviewed in *Computing Reviews*, 31, 2, page 102 (February 1990).
- J-8** Young, M., Taylor, R.N., and Troup, D.B. Software environment architectures and user interface facilities. *IEEE Transactions on Software Engineering*, SE-14, Number 6, 697—708 (June 1988).
- J-9** Young, M. and R. Taylor. Combining static concurrency analysis with symbolic execution. *IEEE Transactions on Software Engineering*, SE-14, Number 10, 1499—1511 (October 1988).
An earlier version of this paper appeared as a refereed conference publication in Proceedings of the Workshop on Software Testing, Banff, Canada, pp. 170—178 (July 1986).
- J-10** Taylor, R., Cheryl D. Kelly, and David L. Levine. Structural testing of concurrent programs. *IEEE Transactions on Software Engineering*, 18, 3, pp. 206—215 (March, 1992). (Major revision of item RC-6 below).
Reviewed in *Computing Reviews*, 34, 9, pg. 489
- J-11** Young, M., D.L. Levine, and R.N. Taylor. Comments on “Temporal logic-based deadlock analysis for Ada”. Correspondence item, *IEEE Transactions on Software Engineering*, 19, 2, pp. 198-199 (February, 1993).
- J-12** Michal Young, Richard N. Taylor, David L. Levine, Kari Forester, and Debra Brodbeck. A concurrency analysis tool suite: rationale, design, and preliminary experience. *ACM Transactions of Software Engineering and Methodology*, 4, 1 (January 1995), pp. 65—106. (Major revision and expansion of RC-10 below.)
- J-13** Richard N. Taylor, Kari A. Nies, Gregory Alan Bolcer, Craig A. MacFarlane, Gregory F. Johnson, and Kenneth M. Anderson. Supporting separations of concerns and concurrency in the Chiron-1 user interface system. *ACM Transactions on Computer-Human Interaction*, 2, 2, pp. 105—144 (June 1995). (Major revision and expansion of RC-16 below.)
- J-14** Pezze, Mauro, Richard N. Taylor, and Michal Young. Graph models for reachability anal-

ysis of concurrent programs. *ACM Transactions on Software Engineering and Methodology*, 4, 2, pp. 171–213 (April 1995).

- J-15** Richard N. Taylor, Nenad Medvidovic, Kenneth M. Anderson, E. James Whitehead, Jr., Jason E. Robbins, Kari A. Nies, Peyman Oreizy, and Deborah L. Dubrow. A component and message-based architectural style for GUI software. *IEEE Transactions on Software Engineering*, 22, 6, pp. 390-406 (June, 1996.) (Major revision and expansion of RC-23 below. ``Best paper of ICSE-17'' (one of three))
- J-16** Nenad Medvidovic, Richard N. Taylor. Exploiting Architectural Style to Develop a Family of Applications. *IEE Proceedings Software Engineering*, 144. Number 5-6, pp. 237-248 (October/December 1997).
- J-17** Roy Fielding, E. James Whitehead, Jr., Kenneth Anderson, Peyman Oreizy, Gregory Bolcer, and Richard Taylor. Web-based Development of Complex Information Products. *Communications of the ACM*, 41,8, pp. 84-92. (August 1998.)
- J-18** Kenneth M. Anderson, Richard N. Taylor, and E. James Whitehead, Jr. A Critique of the Open Hypermedia Protocol. *Journal of Digital Information*, 1, Issue 2, December 1997. Supported by the British Computer Society and the Oxford University Press. <<http://jodi.ecs.soton.ac.uk/Articles/v01/i02/Anderson/>>.
- J-19** Peyman Oreizy and Richard N. Taylor. On the Role of Software Architectures in Runtime System Reconfiguration. *IEE Proceedings Software Engineering*. Vol. 145, No. 5, pp. 137-145 (October 1998). (Revision and expansion of RC-34 below.)
- J-20** Nenad Medvidovic and Richard N. Taylor. A Classification and Comparison Framework for Software Architecture Description Languages. *IEEE Transactions on Software Engineering*, Vol. 26, No. 1, pp. 70-93 (January 2000).
- J-21** Gregory Alan Bolcer and Richard N. Taylor. Advanced Workflow Management Technologies. *Software Process – Improvement and Practice*. Volume 4, Number 3, pp. 125-171 (September 1998 – but appeared physically October, 1999).
- J-22** Peyman Oreizy, Michael M. Gorlick, Richard N. Taylor, Dennis M. Heimbigner, Gregory F. Johnson, Nenad Medvidovic, Alex Quilici, David S. Rosenblum, Alexander L. Wolf. An Architecture-Based Approach to Self-Adaptive Software. *IEEE Intelligent Systems*, 14, 3, pp. 54–62 (May/June 1999).
- J-23** Peter Kammer, Gregory Alan Bolcer, Richard N. Taylor, Mark Bergman. Techniques for Supporting Dynamic and Adaptive Workflow. *Computer Supported Cooperative Work (CSCW)*, 9, pp. 269-292 (2000).
- J-24** Kenneth M. Anderson, Richard N. Taylor, E. James Whitehead, Jr. Chimera: Hypermedia for Heterogeneous Environments. *ACM Transactions on Office Information Systems*, 18, 3, pp. 211-245 (July, 2000).

- J-25** Roy Fielding and Richard N. Taylor. Principled design of the Modern Web Architecture. *ACM Transactions on Internet Technology*, 2, 2, pp. 115-150 (May 2002).
- J-26** Medvidovic, N., E. M. Dashofy, Richard N. Taylor. The Role of Middleware in Architecture-Based Software Development. *International Journal of Software Engineering and Knowledge Engineering*, 13, 4, pp. 367-393 (August 2003)
- J-27** Eric M. Dashofy, André van der Hoek, and Richard Taylor. A Comprehensive Approach for the Development of Modular Software Architecture Description Languages. *ACM Transactions on Software Engineering and Methodology (TOSEM)* 14, 2, pp. 199-245 (April 2005).
- J-28** Jie Ren and Richard N. Taylor. Automatic and Versatile Publications Ranking for Research Institutions and Scholars. *Communications of the ACM (CACM)*, to appear (2005).

Selected Refereed Conference Proceedings

- RC-1** Taylor, R.N. and L.J. Osterweil. A facility for verification, testing and documentation of concurrent process software. Proceedings, COMPSAC 78, Chicago, IL, pp. 36-41 (1978).
- RC-2** Standish, T.A. and R.N. Taylor. Arcturus: a prototype advanced Ada programming environment. Proceedings of the ACM SIGSOFT/SIGPLAN Symposium on Practical Software Development Environments, Pittsburgh, PA, pp. 57-64 (April 1984). Appeared as *Software Engineering Notes*, 9, 3 (May 1984) and *SIGPLAN Notices*, 19, 5 (May 1984).
- RC-3** Taylor, R.N. Software testing in an Ada programming environment (Invited Paper). Proceedings of the 47th Symposium of the NATO-AGARD Avionics Panel on Design for Tactical Avionics Maintainability, Brussels, Belgium, AGARD-CP-361, pp. 20-1 to 20-12 (May 1984).
- RC-4** Taylor, R.N. and L.J. Osterweil. The use of sequencing information in software specifications for verification. Proceedings of the 4th Jerusalem Conference on Information Technology, Jerusalem, Israel, IEEE 84CH2022-2, pp. 260-266 (May 1984).
- RC-5** Taylor, R., L. Clarke, L. Osterweil, J. Wileden, M. Young. Arcadia: A Software development environment research project. Proceedings of the Second International Conference on Ada Applications and Environments, Miami, Florida, pp. 137—149 (April 1986).
- RC-6** Taylor, R. and C. Kelly. Structural testing of concurrent programs. Proceedings of the Workshop on Software Testing, Banff, Canada, pp. 164—169 (July 1986).
- RC-7** Young, M., R. Taylor, D.B. Troup, and C. Kelly. Chiron: A user interface management system for software environments. Proceedings of the 10th International Conference on Software Engineering, Singapore, pp. 367—376 (April 1988).

- RC-8** Taylor, R.N., F.C. Belz, L.A. Clarke, L.J. Osterweil, R.W. Selby, J.C. Wileden, A.L. Wolf, and M. Young. Foundations for the Arcadia environment architecture. Proceedings of the Third ACM SIGSOFT Symposium on Software Development Environments, Cambridge, pp. 1—13 (November 1988).
- Reprinted in *Process-Centered Software Engineering Environments*, edited by Pankaj Garg and Mehdi Jazayeri, IEEE Computer Society Press (1996), pp. 229—241.
- RC-9** Young, M. and R. Taylor. Rethinking the taxonomy of fault detection techniques. Proceedings of the 11th International Conference on Software Engineering, Pittsburgh, pp. 53—62 (May 1989).
- RC-10** Young, M., R. Taylor, K. Forester, D. Brodbeck. Integrated concurrency analysis in a software development environment. Proceedings of the Third Symposium on Testing, Analysis, and Verification, Key West, pp. 200—209 (December 1989).
- RC-11** Shy, Izhar, Richard Taylor, and Leon Osterweil. A metaphor and a conceptual architecture for software development environments. In *Software Engineering Environments: International Workshop on Environments*, Chinon, September 1989. Lecture Notes in Computer Science, Volume 467, November, 1990, pp. 77—97.
- RC-12** Leon Osterweil and Richard Taylor. The architecture of the Arcadia-1 process centered software environment. In Proceedings of the 6th International Software Process Workshop, Sapporo, Japan, October 1990. Pages 155-158.
- RC-13** Keller, Rudolf K., Mary Cameron, Richard Taylor, and Dennis Troup. Chiron-1: A user interface development system tailored to software environments. In Proceedings of the 24th Hawaii International Conference on System Sciences, Volume II. Kailua-Kona, Hawaii, pp. 60—69, January 8—10, 1991.
- RC-14** Keller, Rudolf K., Mary Cameron, Richard N. Taylor, and Dennis B. Troup. User interface development and software environments: The Chiron-1 system. Proceedings of the 13th International Conference on Software Engineering, pp. 208—218. Austin, Texas, May 1991.
- RC-15** R. Kadia (pen name for the authors involved). Issues encountered in building a flexible software development environment. Proceedings of the Fifth Symposium on Software Development Environments, SIGSOFT '92, pp. 169—180. Reston, Virginia, December 1992.
- RC-16** Richard N. Taylor and Gregory F. Johnson. Separations of concerns in the Chiron-1 user interface development and management system. Proceedings of InterChi'93 (ACM SIGCHI's CHI conference united with IFIP TC 13's Interact conference), pp. 367—384. Amsterdam, April 1993.
- RC-17** David L. Levine and Richard N. Taylor. Metric-driven re-engineering for static concurrency analysis. Proceedings of the International Symposium on Software Testing and

Analysis, pp. 40-50. Cambridge, Mass., June 28—30, 1993.

- RC-18** Gregory F. Johnson and Richard N. Taylor. An efficient constraint maintenance system for user interface development. Proceedings of the 1993 Irvine Software Symposium, pp. 63—72. April 30, 1993.
- RC-19** John Self and Richard N. Taylor. A framework for debugging concurrent software. Proceedings of the 1994 Irvine Software Symposium. April 8, 1994.
- RC-20** Kenneth Anderson, Richard N. Taylor, and E. James Whitehead, Jr. Chimera: Hypertext for heterogeneous software environments. Proceedings of the ACM European Conference on Hypermedia Technology. Edinburgh, September 18—23, 1994.
- RC-21** E. James Whitehead, Jr., Kenneth M. Anderson, Richard N. Taylor. A proposal for versioning support for the Chimera system. Proceedings of the Workshop on Versioning in Hypertext Systems. ACM/Siglink, pp. 51—60, Edinburgh Scotland, September 1994.
- RC-22** Patrick S. Young and Richard N. Taylor. Human-executed operations in the Teamware process programming system. Proceedings of the 9th International Software Process Workshop. October 1994.
- RC-23** Richard N. Taylor, Nenad Medvidovic, Kenneth M. Anderson, E. James Whitehead, Jr., and Jason E. Robbins. A component and message-based architectural style for GUI software. Proceedings of the 17th International Conference on Software Engineering (ICSE 17), April 1995, pp. 295—304.
- RC-24** E. James Whitehead, Jr., Jason E. Robbins, Nenad Medvidovic, and Richard N. Taylor. Software architecture: Foundations of a software component marketplace. Proceedings of the First International Workshop on Architectures for Software Systems, pp. 276—282, April 24-25, 1995.
- RC-25** Nenad Medvidovic, Richard N. Taylor, and E. James Whitehead, Jr. Formal modeling of software architectures at multiple levels of abstraction. Proceedings of the 1996 California Software Symposium, pp. 28—40, April 17, 1996.
- RC-26** Nenad Medvidovic, Peyman Oreizy, Jason E. Robbins, and Richard N. Taylor. Using object-oriented typing to support architectural design in the C2 style. Proceedings of the Fourth ACM SIGSOFT Symposium on the Foundations of Software Engineering, pp. 24-32, October 1996.
- RC-27** Richard N. Taylor. Generalization from domain experience: The superior paradigm for software architecture research? Proceedings of the Second International Software Architecture Workshop (ISAW-2), pp. 12-14, October 1996.
- RC-28** Gregory Alan Bolcer and Richard N. Taylor. Endeavors: A Process System Integration Infrastructure. Proceedings of the 4th International Conference on the Software Process.

Brighton, England, pp. 76-85. IEEE Computer Society Press. December 1996.

- RC-29** Nenad Medvidovic, Peyman Oreizy, and Richard N. Taylor. Reuse of off-the-shelf components in C2-style architectures. Proceedings of the 1997 Symposium on Software Reuse. Boston, Massachusetts, pp. 190—198, May 18-19, 1997. Also appeared in Proceedings of the 1997 International Conference on Software Engineering, pp. 692—700.
- RC-30** Richard N. Taylor. Dynamic, invisible, and on the Web. Proceedings of the Workshop on Research Directions in Process Technology. Nancy, France, July 7-9, 1997.
- RC-31** Nenad Medvidovic and Richard N. Taylor. A framework for classifying and comparing architecture description languages. Proceedings of the Joint Fifth ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE) and European Software Engineering Conference (ESEC). October, 1997, pp. 60—76.
- RC-32** Peyman Oreizy, Nenad Medvidovic, Richard N. Taylor, David S. Rosenblum. “Software Architecture and Component Technologies: Bridging the Gap”. Proceedings of the OMG-DARPA Workshop on Compositional Software Architectures, Monterey, CA, January 6-8, 1998. <<http://www.objs.com/workshops/ws9801/papers/paper007.pdf> >
- RC-33** Peyman Oreizy, Nenad Medvidovic, and Richard N. Taylor. Architecture-based runtime software evolution. Proceedings of the 1998 International Conference on Software Engineering, Kyoto, pp. 177-186, April 1998.
- RC-34** Peyman Oreizy and Richard N. Taylor. On the Role of Software Architectures in Runtime System Reconfiguration. Proceedings of the 4th International Conference on Configurable Distributed Systems. Annapolis, Maryland, pp. 61-70, May 4-6, 1998.
- RC-35** Peter Kammer, Gregory Alan Bolcer, Richard N. Taylor, and Arthur S. Hitomi. Supporting distributed workflow using HTTP. Proceedings of the Fifth International Conference on the Software Process. Lisle, IL, 14-17 June 1998, pp.83-94.
- RC-36** Eric Dashofy, Nenad Medvidovic, and Richard N. Taylor. Using OTS Middleware to Implement Connectors in Distributed Software Architectures. Proceedings of the 1999 International Conference on Software Engineering (ICSE 99). Los Angeles, pp. 3–12, May 1999.
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- RC-43** Eric M. Dashofy, André van der Hoek, Richard N. Taylor. An Infrastructure for the Rapid Development of XML-based Architecture Description Languages. Proceedings of the 2002 International Conference on Software Engineering (ICSE 2002), Orlando, May 22-24, 2002.
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- RC-46** Ren, J. and R. N. Taylor. "Visualizing Software Architecture with Off-The-Shelf Components. Fifteenth International Conference on Software Engineering and Knowledge Engineering", San Francisco, CA., pp. 132-141 (July 1-3, 2003)
- RC-47** Ren, J. and R. N. Taylor. "Incorporating Off-The-Shelf Components with Event-based Integration". 12th International Conference on Intelligent and Adaptive Systems and Software Engineering (IASSE-2003), San Francisco, CA, pp. 188-191 (July 9-11, 2003)
- RC-48** Scott Hendrickson, Eric Dashofy, Richard N. Taylor, "An Approach for Tracing and Understanding Asynchronous Systems". Proceedings of the 18th IEEE International Conference on Automated Software Engineering (ASE) Montreal, pp. 318-322 (2003). Short paper. .

- RC-49** Justin R. Erenkrantz and Richard N. Taylor. "Supporting Distributed and Decentralized Projects: Drawing Lessons from the Open Source Community." 1st Workshop on Open Source in an Industrial Context (OSIC'03), held in conjunction with OOPSLA 2003, October 2003, Anaheim.
- RC-50** Rohit Khare and Richard N. Taylor. "Extending the Representational State Transfer (REST) Architectural Style for Decentralized Systems." Proceedings of the International Conference on Software Engineering (ICSE), May, 2004, Edinburgh, Scotland. pp. 428-437. Winner, Distinguished Paper Award.
- RC-51** Girish Suryanarayana, Justin R. Erenkrantz, Scott A. Hendrickson, and Richard N. Taylor. "PACE: An Architectural Style for Trust Management in Decentralized Applications." Proceedings of the Fourth Working IEEE/IFIP Conference on Software Architecture (WICSA4), June 2004, Oslo, Norway pp. 221-230.
- RC-52** John Georgas and Richard N. Taylor. "Towards a Knowledge-Based Approach to Architectural Adaptation Management." Proceedings of ACM SIGSOFT Workshop on Self-Managed Systems (WOSS '04). October 31- November 1, 2004, Newport Beach, CA.
- RC-53** Jie Ren and Richard N. Taylor. "Utilizing Commercial Object Libraries within Loosely-coupled, Event-Based Systems." Proceedings of IASTED International Conference on Software Engineering and Applications (SEA2004), November 09 - 11, 2004, Cambridge, USA.
- RC-54** John Georgas, Andre van der Hoek, and Richard N. Taylor. "Architectural Runtime Configuration Management in Support of Dependable Self-Adaptive Software". Proceedings of the ICSE 2005 Workshop on Architecting Dependable Systems (WADS). May 2005.
- RC-55** Peter Kammer and Richard N. Taylor. "An Architectural Style for Supporting Work Practice: Coping with the Complex Structure of Coordination". Proceedings of the International Symposium on Collaborative Technologies and Systems (CTS'05), May 15-19, 2005, Saint Louis, Missouri, USA.
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- RC-58** Scott Hendrickson, Eric Dashofy, and Richard N. Taylor. "An (Architecture-centric) Approach for Tracing, Organizing, and Understanding Events in Event-based Software Architectures". Proceedings of the 13th IEEE International Workshop on Program Com-

prehension (IWPC) 2005. May, 2005.

Selected Non-refereed or Weakly-refereed Publications

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- NR-2** Taylor, R.N., R.L. Merilatt and L.J. Osterweil. Integrated testing and verification system for research flight software: Design document. NASA Contractor Report 159095, 238 pp., (available from NASA-STIF, Baltimore MD) (1979).
- NR-3** Taylor, R.N., Assertions in programming languages. SIGPLAN Notices, 15, No.1. pp. 105-114. (1980).
- NR-4** Feiber, J.D., R.N. Taylor, and L.J. Osterweil. Newton - A dynamic program analysis tool capabilities specification. Department of Computer Science Technical Report CU-CS-200-81, University of Colorado (February 1981).
- NR-5** Powell, Patricia B., editor. Software Validation, Verification, and Testing Technique and Tool Reference Guide. NBS Special Publication 500-93. National Bureau of Standards, Washington, D.C. (September 1982). (R.N. Taylor assisted as a contributing author.)
- NR-6** Brindle, A., D. Martin, R. Taylor, and L. Jansen. A model for the run-time processing of Ada tasking. Aerospace Corporation Technical Report, Number ATR-84(8233)-2 (August 1984).
- NR-7** Martin, D., A. Brindle, R. Taylor, and L. Jansen. Modifying a sequential Ada interpreter to support Ada tasking. Aerospace Corporation Technical Report, Number ATR-86(8166)-1 (January 1986).
- NR-8** Taylor, R.N. Session Report: Process Programming. Proceedings of the 3rd International Software Process Workshop, Breckenridge, Colorado. pp. 75-77 (November 17—19 1986).
- NR-9** Taylor, R., D. Baker, F. Belz, B. Boehm, L. Clarke, D. Fisher, L. Osterweil, R. Selby, J. Wileden, A. Wolf, M. Young. Next generation software environments: Principles, problems, and research directions. Technical Report Number 87—16, Department of Information and Computer Science, University of California, Irvine, July 15, 1987.
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number 2, page 1. Volume 17, number 1, page 1. Volume 18, number 1, page 1. Volume 18, number 2, pages 1-2.

- NR-12** Taylor, R.N. Roundtable summary: Event-based control/integration mechanisms. Proceedings of the 1st Irvine Software Symposium (ISS '91). Irvine, California (June 5, 1991). Pages 85—87.
- NR-13** J. Self and R. N. Taylor. Using static concurrency analysis to instrument concurrent programs for dynamic debugging. (Abstract) Proceedings of the ACM/ONR Workshop on Parallel and Distributed Debugging, Santa Cruz, California (May 20-21, 1991). Pages 263—265.
- NR-14** Patrick S. Young and Richard N. Taylor. Team-oriented process programming. Department of Information and Computer Science Technical Report Number UCI-91-68 (August, 1991).
- NR-15** Richard N. Taylor and Gregory F. Johnson. The Chiron-1 user interface development system. Proceedings of the 1992 DARPA Software Technology Conference. Los Angeles, CA (April 1992). Pages 303—309.
- NR-16** R. Kadia (pen name for the eight authors who contributed). Lessons from the Arcadia project. Proceedings of the 1992 DARPA Software Technology Conference. Los Angeles, CA (April 1992). Pages 287—302.
- NR-17** Anderson, Jennifer-Ann, Richard Taylor, and Michal Young. Modularizing a concurrent artist-based UIMS for software environments. Department of Information and Computer Science Technical Report Number UCI-92-80 (July, 1992).
- NR-18** Richard N. Taylor and Kari A. Forester. A software engineering approach to user interface management systems. CrossTalk— The Software Engineering Report, pp. 7—10. December 1993.
- NR-19** Rebecca E. Grinter and Richard N. Taylor. Improvement of User Interface Development Methodologies through Rigorous Analysis. UCI Technical Report Number 93-36.
- NR-20** Richard N. Taylor, Will Tracz, and Lou Coglianese. Software Development Using Domain-Specific Software Architectures. Software Engineering Notes, 20, 5, pp. 27—38 (December 1995).
- NR-21** Nenad Medvidovic and Richard N. Taylor. Reuse of Off-the-Shelf Constraint Solvers in C2-Style Architectures. UCI Technical Report Number 96-28. July 1996.
- NR-22** Gregory A. Bolcer and Richard N. Taylor. Endeavors: An Execution Infrastructure for Maturing Processes. Proceedings of the Conference on Software Process Improvement. Irvine, California, January 23-24, 1997.

- NR-23** Arthur S. Hitomi, Gregory Alan Bolcer, and Richard N. Taylor. Endeavors: A Process System Infrastructure (Formal Research Demonstration). Proceedings of the 1997 International Conference on Software Engineering. Boston, Massachusetts (May 1997), pp. 598-599.
- NR-24** Richard N. Taylor, Nenad Medvidovic, and Peyman Oreizy. Architectural implications of common operator interfaces. Ground System Architectures Workshop. El Segundo, CA. February, 1998.
- NR-25** Peyman Oreizy, David S. Rosenblum, Richard N. Taylor, "On the Role of Connectors in Modeling and Implementing Software Architectures", Technical Report UCI-ICS-98-04, Department of Information and Computer Science, University of California, Irvine, February 1998.
- NR-26** Distributed Workflow using HTTP: An Example using Software Pre-Requirements. Arthur S. Hitomi, Peter J. Kammer, Gregory Alan Bolcer, and Richard N. Taylor. Paper accompanying a formal research demo, Proceedings of the 1998 International Conference on Software Engineering, Kyoto, Volume II, pp. 40-44, April 1998.
- NR-27** Nenad Medvidovic and Richard Taylor. Separating Fact from Fiction in Software Architecture. Proceedings of the Third International Software Architecture Workshop (ISAW-3). Sponsored by ACM Sigsoft. 1-2 November, 1998, pp. 105-108.
- NR-28** Richard N. Taylor and Eric M. Dashofy. "Function Follows Form: Architecture and 21st Century Software Engineering," Participant whitepaper for: Workshop of the Interagency Working Group for Information Technology Research and Development (ITRD) Software Design and Productivity (SDP) Coordinating Group December 13 - 14, 2001 Vanderbilt University, Nashville, TN. Participant White Papers at <http://www.itrd.gov/iwg/pca/sdp/sdp-workshop/vanderbilt/>
- NR-29** Proposal for a School of Design at the University of California, Irvine. November 2002. Accessible at <http://www.evc.uci.edu/growth/design/SoD-proposal.pdf>. School of Design proposal committee (Chair: Taylor).
- NR-30** Scott Hendrickson, Eric Dashofy, Adrita Bhor, Richard N. Taylor, Santiago Li, Nghi Nguyen, "An Approach for Tracing and Understanding Asynchronous Systems", Technical Report, Institute for Software Research, No. UCI-ISR-02-7, December 2002.
- NR-31** Jie Ren, Richard N. Taylor, "Incorporating Off-The-Shelf Components with Event-based Integration", Technical Report, Institute for Software Research, No. UCI-ISR-02-2, April 2003.
- NR-32** Justin R. Erenkrantz, Richard N. Taylor, "Supporting Distributed and Decentralized Projects: Drawing Lessons from the Open Source Community", Technical Report, Institute for Software Research, No. UCI-ISR-03-4, June 2003.

- NR-33** Rohit Khare and Richard N. Taylor, “Extending the REpresentational State Transfer (REST) Architectural Style for Decentralized Systems”, Technical Report, Institute for Software Research, No. UCI-ISR-03-8, September 2003.
- NR-34** Justin Erenkrantz, Girish Suryanarayana, Scott Hendrickson, Richard Taylor, “PACE: An Architectural Style for Trust Management in Decentralized Applications”, Technical Report, Institute for Software Research, No. UCI-ISR-03-9, September 2003.
- NR-35** Peyman Oreizy and Richard N. Taylor, “Decentralized Software Evolution”, Technical Report, Institute for Software Research, No. UCI-ISR-03-10, September 2003

University Service

Systemwide Service

Quinquennial Committee to review the MICRO Program	1998.
University of California MICRO Executive Committee	1986—1992

Campus Service

Director, Institute for Software Research	1999—present
Committee on Planning and Budget	2002-03
Academic Planning Group	2002-03
Chair, School of Design Proposal Committee	2001-2005
Study Group for School of Design	2000
Task Force to Identify Barriers to Interdisciplinary Research	2000
Member, National Fuel Cell Research Center	2000-03
Academic Planning Group	1999-2000
EVC Search Committee	1999-2000
Council on Educational Policy	1999-2000
CRITO 5-year Review Committee	1999-2000
Conflict of Interest Oversight Committee	1996—99
Director, Irvine Research Unit in Software (IRUS)	1994—99
Joint Senate-Administration Task Force on Information Studies	1996
Strategic Planning Session of the Office of Research and Graduate Studies	1996
Advisory Committee on University/Industry Research Relations	1993—94
ICS Faculty Chair	1993—94
ICS Representative to Academic Senate	1991—93
Ad hoc personnel committee	1986—87

School Service

Department Chair, Informatics	1/2003-6/2004
Constitution and Bylaws Drafting Committee	2003

Departmental (ICS pre-schoolhood) Service

Associate Chair, Facilities	1999—2000
Executive Committee	1984—1985, 86—87, 93—94 (ex officio), 95—96, 97—99 2001-2002.
Recruiting Committee (Chair)	1988—1989, 91—92, 93—94, 95—96, 98—99, 00—01, 02-03
	Member 1997—98.
Space Committee	1989—1990, 92—93, 94, 95—96.
Personnel Committee	1990—1993 (Chair, 92—93).
Graduate Policy Committee.	1991—93, 2001—02
Undergraduate Policy Committee	2002—03.
Department Planning Committee.	1991—92.
External Relations (Chair)	1990—1991.
Planning Committee (Chair)	1989—1990.
Ph.D Admissions Committee	1983—1984, 86—87.

Computing Resources Committee	1985—1987. Chair 85—86.
Distinguished Colloquia Organizer	1985—86.
Associate Chair—- Research	1985 - 1986
Colloquia Committee	1982—1983.