

## **Ali H. Dogru**

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### **EDUCATION**

- 1992 Ph.D. Computer Science. Southern Methodist University, Dallas, Texas.  
Dissertation: A Process Oriented Engineering System Design Framework
- 1984 M.S. Electrical Engineering. University of Texas at Arlington.
- 1980 B.S. Electrical Engineering, Technical University of Istanbul, Turkey.

### **PROFESSIONAL EXPERIENCE**

1992-Present, Professor, Department of Computer Engineering, Middle East Technical University.

2011-2012 Visiting Associate Professor, Department of Computer Science, National University of Singapore (Department ranked top 9<sup>th</sup> in 2012 by QS World University Rankings).

2009-2011 Department Vice-Chairman

Founder and Director, Software Engineering MS Program.

Development of the assessment and evaluation process for ABET accreditation of the department.

1992-2002, Software Development Consultant, Engitrade Inc., Dallas, Texas.

2000-2008, Development and instruction of the degree courses “Domain Analysis and Modeling” and “Introduction to Software Engineering” for the M.S. in Transdisciplinary Engineering program by the Institute for Design and Advanced Technology (IDEATE), Texas Tech. University. Seven classes were conducted, mainly for engineers and managers from Raytheon.

1997-1998 Visiting Associate Professor, Department of Computer and Information Science, New Jersey institute of Technology.

1995-1999, Development and instruction for the training course “Domain Specific Information Systems,” University of Texas, System and Software Engineering Institute, Austin, Texas. Four class terms were conducted, mainly for engineers and managers from Raytheon E-Systems.

1991-1992, Senior Research Engineer. N.C.I., Dallas, Texas.

Development of packages with hardware and software components, for personal computers.

1990-1991, Research Associate. C.I.M., Richardson, Texas.

Developed systems that interface CAD packages for verifying designs against specifications. Developed an algorithm for intelligent searches in a multi-department, multi-tool design and production organization.

1988-1990, Research Assistant. Computer Science and Engineering Department, Southern Methodist University, Dallas, Texas.

Developed software for generating database reports on student records, testing their courses against the degree plan requirements, for various disciplines.

1986-1988, Computer Engineer. Altay Consultants Inc., Richardson, Texas.

Built Microcomputers, developed and marketed software.

1983-1986, Research Assistant. Department of Biomedical Engineering, University of Texas at Arlington, Arlington, Texas.

Serviced and developed software and hardware for an LSI-11 based data acquisition system with signal processing for analyzing electroencephalogram signals using FORTRAN and Macro Assembler.

[1981-1983], Full-time student, University of Texas at Arlington, Arlington, Texas.

Summer 1981, Telecommunications Engineer. Telesan Lim., Ankara, Turkey. Serviced and tested wireless telecommunications equipment.

### **Programming Languages Experience**

Extensive experience with C++, Java, X-Windows, Pascal, FORTRAN, Ada, LISP, Assembly (IBM 370, PDP-11, Intel 80x86, Z80, MC6800), and BASIC: Management of development projects using XML, Borland J Builder, C++ Builder, Delphi and Visual BASIC environments. Programming and management experience in Unix and PC based Object Oriented code development, using C++, X-Windows, LISP and Pascal, for the development of Computer Aided Software and Hardware Design Tools, and also custom business applications. Mixed language (Assembly/Pascal-FORTRAN) development for signal processing and communications systems.

### **Computer Systems and Hardware Experience**

Worked with Unix-based Sun and DEC and their compatible Workstations, IBM 4341, DEC 20, LSI-11, IBM PC, TI PC, Xerox 820, Macintosh, and various microprocessor development tools. Design and implementation of PC compatible boards for special communications needs and electronic musical instruments.

## **PUBLICATIONS**

### **Books**

1. Modern Software Engineering Concepts and Practices: Advanced Approaches, Ali H. Dogru, Veli Bicer (editors), IGI Global, December 2010, ISBN 1-60960-215-3 ISBN 13: 978-1-60960-215-4.
2. Component Oriented Software Engineering, The Atlas Publications, Grandview, Texas, February 2006, ISBN: 0-9778129-0-1.
3. Yazılım Mühendisliği: (in Turkish: Software Engineering) Ali Arifoğlu and Ali Dođru, SAS Bilişim Yayınları, 2001, Ankara Turkey ISBN: 975-97197-2-X,

### **Book Chapters**

4. Modern Approaches to Software Engineering in the Compositional Era, in Knowledge Engineering for Software Development Life Cycles: Support Technologies and Applications (Muthu Ramachandran, ed.). IGI Global, Jan 31 2011. ISBN-10: 1609605098. ISBN-13: 978-1609605094. Ali Dogru, Pinar Senkul, Ozgur Kaya.
5. Process Integration through Hierarchical Decomposition in Enterprise Architecture and Integration: Methods, Implementation and Technologies (Eds. Wing Lam, Venky Shankararaman), Idea Group, Hershey, PA, 2007 [with Ayesha Manzer].

6. Toward a Component-Oriented Methodology to Build-by-Integration in Development of Component-Based Information Systems (Eds. Mark Lycett, Sergio de Cesare and Robert Macredie), Vol. 2, M.E. Sharpe, 2006, Armonk, NY.
7. Domain Analysis for the Engineering of Spatiotemporal Software in Software Engineering with Computational Intelligence Series: Studies in Fuzziness and Soft Computing, Vol. 121, (Ed. Jonathan Lee), Springer Verlag, December 2003 [with Adnan Yazici].
8. Techniques in Abstract Design Methods in Engineering Design Development. In Control and Dynamic Systems: Advances in Theory and Applications, Volume 61, Part 2: Computer Aided Manufacturing/ Computer Integrated Manufacturing (CAM/CIM) (Ed. C. T. Leondes), Academic Press, 1994, [with A. Ertas, and M.M. Tanik].

### **Journal Papers**

9. From extended feature models to constraint logic programming, Science of Computer Programming, Volume 78, Issue 12. pp: 2295–2312, December 2013, Ahmet Serkan Karataş, Halit Oğuztüzün, Ali Doğru.
10. Regulations and Software Evolution: An Example from the Military Domain, Science of Computer Programming, Vol. 77 Issue 5, pp. 636-644, May 1, 2012, K. Burak Codur, Ali H. Dogru.
11. Application of Project-Based Learning in a Theoretical Course: Process, Difficulties and Recommendations, 2012, International Journal of Engineering Education, Vol. 28 No. 1 pp: 17-25, K. Burak Codur, Serçin Karatas, Ali H. Dogru.
12. Modeling Product Line Software Assets Using Domain Specific Kits, IEEE Transactions on Software Engineering, 2012, Altintas, N. Ilker, Cetin, Semih, Dogru, Ali H., Oguztuzun, Halit. vol. 38, no. 6, pp. 1376-1402, Nov.-Dec. 2012, doi:10.1109/TSE.2011.109,
13. Using Context Information for Staged Configuration of Feature Models , Journal of Integrated Design and Process Science, IOS Press, September, 2011, Vol. 15, No. 2, pp. 37-51, Ahmet Serkan Karataş, Ali H. Doğru, Halit Oğuztüzün, Mehmet Tolun.
14. A Rule-based Domain Specific Language for Fault Management, Journal of Integrated Design and Process Science, IOS Press, September, 2010, Vol. 14, No. 3, pp. 13-23, Ozgur Kaya, Seyedsasan Hashemikhabir, Cengiz Togay, Ali Hikmet Dogru,.
15. Systematic Component-Oriented Development with Axiomatic Design, Journal of Systems and Software, Volume 81 , Issue 11, November 2008, pp. 1803-1815, [Cengiz Togay, Ali H. Dogru, John U. Tanik] online: www.sciencedirect.com
16. Process Maintenance through Component-Process Replacement, Journal of Integrated Design and Process Science, Vol.10, No. 1, March 2006, pp. 31-43 [with Ayesha Manzer].
17. Design Effort Estimation using Complexity metrics, Journal of Integrated Design and Process Science, Vol.8, No. 3, September 2004, pp. 83-88 [with Nael Salman].
18. A Process Model for Component Oriented Software Engineering, IEEE Software, Vol.20, No. 2, March/April 2003: pp.34-41 [with M.M. Tanik].
19. Process Improvement Monitoring through the World Wide Web. International Journal of Computer Applications in Technology Vol.15 No.1, 2002: pp.15-23.
20. Conformance to Organizational Standards through Process Modeling Tools. International Journal of Computer Applications in Technology Vol.15 No.1, 2002: pp.37-50 [with Yilmaz Calis].
21. Computing Cyclomatic Complexity with Cubic Flowgraphs. Journal of Systems Integration Vol. 10 No. 4, September 2001: pp.395-409 [with Yongming Tang, Franz Kurfess and Murat M. Tanik].
22. Material-Flow Modeling for Design for Environment, Journal of Design and Process Science, Volume 4, Number 3, September 2000, [with D.H. Sebastian].

23. Regional Process Modeling for Design for Environment. *Journal of Systems Integration*, Volume 8, Number 2, May 1998, Pp:159-181, [with D. H. Sebastian].
24. An Integrated System Design Environment: Concepts and a Status Report. *Journal of Systems Integration* Volume 2, Number 4, October 1992, pp. 317-347, [with S. N. Delcambre, C. Bayrak, Y. T. Chen, E. S. Chan, W. Yin, M. G. Christiansen, and M. M. Tanik].
25. Modeling an Arithmetic Logic Unit with Cellular Automata. *IEEE Computing Futures*, Spring 1991, pp.40-49, [with C. Bayrak].

### Conference Papers

26. Enhancing XCOSEML with Connector Variability for Component Oriented Development, 21st International Conference on Emerging trends and technologies in Designing Healthcare Systems (SDPS 2016), 4-6 December, 2016, Orlando, Florida, Anil Cetinkaya, M. Çağrı Kaya, Ali H. Dogru
27. Bileşen Modellerinde Değişkenlik Yönetimi Yaklaşımının İncelenmesi, Ulusal Yazılım Mühendisliği Konferansı, 24-26 Ekim, 2016, Çanakkale, Türkiye, Muhammed Çağrı Kaya, Alper Karamanlıoğlu, Mahdi Saeedi Nikoo, Sina Entekhabi, Selma Süloğlu, Ali H. Doğru
28. Lightweight Realization of UML Ports for Safety-Critical Real-Time Embedded Software, 4th international Conference on Model Driven Engineering and Software Development (Modelsward 2016), 19-21 February, 2016, Rome, Italy, Alper Tolga Kocataş, Mustafa Can and Ali Hikmet Doğru
29. Definition of Domain Specific Components in Software Product Lines based on Feature Variability, The 20th International Conference on Transformative Science and Engineering, Business and Social Innovation, 1-5 November, 2015, Fort Worth, Texas, USA, pp. 10-15, İbrahim O. Yiğit, Ali H. Doğru
30. Towards Verification of Component Compositions incorporating Variability , The 20th International Conference on Transformative Science and Engineering, Business and Social Innovation, 1-5 November, 2015, Fort Worth, Texas, USA, pp. 202-207, Muhammed Çağrı Kaya, Mahdi Saeedi Nikoo, Selma Suloglu, Ali H. Dogru
31. Dynamic Analysis and Interpreter Implementation of Real-time Rule-based DSL with CEP Capability , The 20th International Conference on Transformative Science and Engineering, Business and Social Innovation, 1-5 November, 2015, Fort Worth, Texas, USA, pp. 270-279, Muhammet Oğuz Özcan, Ali Hikmet Doğru, Son Kullanıcı Tabanlı Yazılım Geliştirme Aracı, 8. Ulusal Yazılım Mühendisliği Sempozyumu, sayfa: 26-34. 8-10 Eylül 2014, Güzelyurt, KKTC, Cengiz Toğay, Volkan Akkuş, Ali Hikmet Doğru
32. Yazılım Ürün Hatlarında Alana Özgü Bileşenleri Belirleme Yaklaşımı, 9'uncu Ulusal Yazılım Mühendisliği Sempozyumu (UYMS)-15, 09-11 Eylül 2015, Bornova, İZMİR, İbrahim Onuralp Yiğit, Ali Hikmet Doğru
33. Variability modeling in Component Oriented System Engineering, The 19th International Conference on Transformative Science and Engineering, Business and Social Innovation June 15 19, 2014, Kuching, Sarawak, Malaysia, Muhammed Çağrı Kaya, Selma Suloglu, Ali H. Dogru
34. Towards an Agile Methodology for Business Process Development, the 6th International Conference on Subject-Oriented Business Process Management, April, 22-23, 2014, Eichstätt, Germany, S-BPM ONE 2014, LNBIP 170, pp. 133-142, Davut Çulha and Ali Doğru
35. Inconsistency Resolution of Feature Trees within Multi-level Feature Modeling The 18th International Conference on Transformative Science and Engineering, Business and Social Innovation October 27-31, 2013 Campinas, São Paulo, Brazil pp. 9-16 Erman Şen, Seyyit Alper Sert, Ali Hikmet Doğru

36. A Scenario Analysis Through BPMN-Based Modeling of Wireless Sensor Networks The 18th International Conference on Transformative Science and Engineering, Business and Social Innovation October 27-31, 2013 Campinas, São Paulo, Brazil pp. 41-54 Aylin AKCA OKAN, Metin FIRAT, Ali H. DOGRU
37. Component-based Variability Modeling The 18th International Conference on Transformative Science and Engineering, Business and Social Innovation October 27-31, 2013 Campinas, São Paulo, Brazil pp. 55-62 İbrahim İleri, Alperen Eroğlu, Ali Doğru
38. Managing Variability in Service Composition with Axiomatic Design The 18th International Conference on Transformative Science and Engineering, Business and Social Innovation October 27-31, 2013 Campinas, São Paulo, Brazil pp. 153-160 Selma Suloglu, Cengiz Togay, Ali H. Dogru
39. Further Specification of Basic Event Sequences: A Processing View The 18th International Conference on Transformative Science and Engineering, Business and Social Innovation October 27-31, 2013 Campinas, São Paulo, Brazil pp. 225-230 Ozgur Kaya, Ali Dogru
40. Rule Based Axiomatic Design Theory Guidance for Software Development, CORCS 2012: The 4th IEEE International Workshop on Component-Based Design of Resource-Constrained Systems, IEEE COMPSAC 2012, July 16-20, 2012 Izmir, Turkey, Cengiz Togay, Emre Selman Caniaz, Ali Hikmet Dogru
41. Son Kullanıcı Geliştirme Ortamı için Aksiyomatik Tasarım Esinli Mimari, 7-8 Aralık, 2012, Ulusal Yazılım Mimarisi Konferansı, İzmir, Cengiz Toğay ve Ali Hikmet Doğru.
42. Rule Based Axiomatic Design Theory Guidance for Software Development, CORCS 2012: The 4th IEEE International Workshop on Component-Based Design of Resource-Constrained Systems, IEEE COMPSAC 2012, July 16-20, Izmir, Turkey, Cengiz Togay, Emre Selman Caniaz, Ali Hikmet Dogru.
43. Towards Automation of Software Development: From Features to Components, the SDPS 2012 Conference, June 10-14, 2012, Berlin, Germany, Cengiz Togay, Veli Bicer, Ali H. Dogru.
44. Transforming Cross-tree Relations Involving Attributes into Basic Constraints in Feature Models, 5<sup>th</sup> International Conference on Application of Information and Communication Technologies (AICT), October 12-14 2011, Baku Azerbaijan, pp. 157-161. (ISBN: 978-1-61284-832-7), Ahmet Serkan Karatas, Halit Oğuztüzün, Ali Doğru.
45. FMML: A Feature Model Markup Language, SCLIT 2011: Symposium on Computer Languages, Implementation and Tools, September 19-25, 2011, Halkidiki, Greece, Leili Nabel, Ahmet Serkan Karataş, Halit Oğuztüzün, Ali Doğru.
46. Merging Multi-View Feature Models by Local Rules, accepted for presentation at SERA 2011: 9th ACIS Conference on Software Engineering Research, Management and Applications, August 10-12, 2011, Baltimore, Maryland, Elçin ATILGAN AYDIN, Halit OĞUZTÜZÜN, Ali Hikmet DOĞRU, Ahmet Serkan KARATAŞ.
47. Modeling and Reasoning about Design Alternatives of Software as a Service Architectures, Workshop on Architecting Cloud Computing Applications and Systems - in conjunction with WICSA 2011: Ninth Working IEEE/IFIP Conference on Software Architecture, June 20, 2011, Boulder, Colorado, USA, Bedir Tekinerdogan, Karahan Ozturk, Ali Dogru pp. 312-319.
48. Designing of an Adaptable Checkpointing System for Real-time Applications, The 16<sup>th</sup> International Conference on Transformative Science, Engineering, and Business Innovation June 12-16, 2011, Jeju, S. Korea, Ozgur Kaya, Ali H, Dogru.

49. Service Oriented Development through Axiomatic Design (ADSO), The 16<sup>th</sup> International Conference on Transformative Science, Engineering, and Business Innovation June 12-16, 2011, Jeju, S. Korea, Ebru Kuloglu, Cengiz Togay, Ali Hikmet, Dogru.
50. Mapping Extended Feature Models to Constraint Logic Programming over Finite Domains, Software Product Line Conference (SPLC 2010), September 13-17, 2010, Jeju, S. Korea, LNCS 6287, Serkan Karataş, Halit Oğuztüzün, Ali H. Doğru, pp. 286-299.
51. Global Constraints on Feature Models, 16th International Conference on Principles and Practice of Constraint Programming 2010, September 6-10, 2010, St Andrews, Scotland, LNCS 6308, Serkan Karataş, Halit Oğuztüzün, Ali H. Doğru, pp. 537-551.
52. Using Context Information for staged Configuration of Feature Models, Transformative Systems Conference: SDPS 2010, June 6-11, 2010, Dallas, Texas, 10 pages, Ahmet Serkan Karatas, Ali H. Dogru, Halit Oguztuzun and Mehmet Tolun.
53. A Rule-based Domain Specific Language for Fault Management, Transformative Systems Conference: SDPS 2010, June 6-11, 2010, Dallas, Texas, 6 pages, Ozgur Kaya, Seyed Sasan Hashemikhabir, Cengiz Togay and Ali H. Dogru.
54. A Component Oriented Modeling Language for Top Down Educational Design, Twelfth Transdisciplinary Conference-Workshop on Integrated Design & Process Science, November 1-5, 2009, Montgomery, Alabama, 8 pages. S. M. Azgur and A. H. Dogru.
55. Towards An Interdisciplinary Methodology for Service-oriented System Engineering, ISCIS 2009, The 24th International Symposium on Computer and Information Sciences - ISCIS, September 14-16, 2009, METU Northern Cyprus Campus, Veli Bicer, Steffen Lamparter, York Sure, Ali H. Dogru
56. Evolution of Software Development Standards in the Military Domain and Effects on Software Applications. International Workshop on Principles of Software Evolution (IWPSE) and the annual ERCIM Workshop on Software Evolution August 24-25, 2009 Amsterdam, The Netherlands IWPSE-EVOL 2009 pp: 41-45, K. Burak Codur, Ali H. Dogru.
57. Generating OWL-S Families by Utilizing Business Process Definitions and Feature Models, The 1st International Workshop on Advanced Techniques for Web Services, May 6,7 2009, Milan, Italy, pp: 42-52, Umut Orhan and Ali H. Dogru.
58. Görev Kritik ve Gömülü Sistemler İçin Hata Yönetimi Kılavuz Mimarisi: T5D, Ulusal Yazılım Mimarisi Konferansı UYMK 08 September 11-12, 2008, İzmir, Türkiye, pp: 187-196, Metin Tekkalmaz, Özgür Kaya, Mustafa Dursun, Tuçe Sarı Tekkalmaz, Ali Doğru.
59. Service-Oriented System Design through Process Decomposition, The Eleventh SDPS Transdisciplinary Conference on Integrated Systems, Design and Process Science (IDPT 08), June 1-6, 2008, Taichung, Taiwan, E. K. Akbıyık, S. Suloglu, C. Togay, A. H. Dogru.
60. Fault Avoidance for Mission Critical Systems, The Eleventh SDPS Transdisciplinary Conference on Integrated Systems, Design and Process Science (IDPT 08), June 1-6, 2008, Taichung, Taiwan, Ozgur Kaya, Levent Alkislar, Reyhan Ergun, Cengiz Togay, Ali H. Dogru.
61. Software Engineering Field and Curriculum Adaptation in Turkey, Software Engineering in East and South Europe (SEESE) Workshop in International Conference on Software Engineering (ICSE 2008), May 13, 2008, Leipzig, Germany, Ali H. Dogru, Meltem Turhan-Yodem.
62. Deadlock Detection in High Level Architecture Federations Using Axiomatic Design Theory. EUROSIM07, Ljubljiana, Slovenia, September 9-13, 2007, Togay, C., Bicer, V. and Dogru, A. H.
63. Legacy migration to service oriented computing with mashups, the Second International Conference on Software Engineering Advances (ICSEA), August 25-31, 2007, Cap Esterel, French Riviera, France, Çetin, S., Altıntaş, N.I., Oğuztüzün, H., Doğru, A.H., Tüfekçi, Ö. And Süloğlu, S.

64. A Mashup-Based Strategy for Migration to Service-Oriented Computing, IEEE International Conference on Pervasive Services, Istanbul, Turkey, July 15-20, 2007, pp: 169-172. Semih Cetin, N. Ilker Altintas, Halit Oguztuzun, Ali H. Dogru, Ozgur Tufekci, Selma Suloglu.
65. A Model-driven Approach for Service-Centric System Development, The Tenth World Conference on Integrated Design and Process Technology, Antalya, Turkey, June 3-10, 2007 pp: 175-182, Veli Biçer, Cengiz Toğay, Ali H. Doğru.
66. UML Extensions for Security-Oriented Modeling of Information systems,” The Tenth World Conference on Integrated Design and Process Technology, Antalya, Turkey, June 3-10, 2007, O. Rayis, S. Yousif, A. Dogru.
67. Industrializing Software Development: The Factory Automation Way, Trends in Enterprise Application Architecture 2nd International Conference, (TEAA), Berlin, Germany, LNCS 4473, November 29 - December 1, 2006, pp. 54-68.[ Altintas, N. Ilker, Cetin, Semih, and Dogru, Ali.]
68. Improvements in Simulation Component Interfaces through Axiomatic Design - Aksiyomatik Tasarım ile Benzetim Bileşen Ara Yüzlerinde Kazanımlar, SAVTEK 2006, Savunma Teknolojileri Kongresi, vol. 2, Pg: 201-208, 29-30 June 2006, Ankara,. Togay, C., Dogru, A.H.
69. Service-Oriented e-learning Systems with Axiomatic Design, The Ninth World Conference on Integrated Design and Process Technology, San Diego, California, June 25-30, 2006, Bicer, V., Togay, C., Dogru, A.H.
70. Component Oriented Simulation Development with Axiomatic Design, The Ninth World Conference on Integrated Design and Process Technology, San Diego, California, June 25-30, 2006. Togay, C., Dogru, A.H., Tanik, U.J., Grimes, G.J.
71. Measurement of Component Congruity for Composition based on Axiomatic Design, The Ninth World Conference on Integrated Design and Process Technology, San diego, California, June 25-30, 2006, Togay, C., Aktunc, O., Tanik. M., Dogru, A.H.
72. Detection of Component Composition Mismatch with Axiomatic Design, IEEE Southeast Conference (SoutheastCon), Memphis, Tennessee, March 31 April 2, 2006 [with Cengiz Togay and Gayathri Sundar]
73. Component Oriented Design Based on Axiomatic Design Theory and COSEML, The 21<sup>st</sup> International Symposium on Computer and Information Sciences (ISCIS), Istanbul, turkey, LNCS 4263, November 1-3, 2006, pp:1072-1079
74. Infrastructure Design for HLA based Automated Federation Development, The Eighth World Conference on Integrated Design and Process Technology, Beijing, China, June 12-16, 2005, pp: 698-704 [with Cengiz Togay].
75. Agile Process for Component Orientation, The Eighth World Conference on Integrated Design and Process Technology, Beijing, China, June 12-16, 2005, pp: 705-709 [with Mehmet Burhan Tuncel].
76. Interface Engineering: A Component Oriented Approach, The Seventh World Conference on Integrated Design and Process Technology. December 3-6, 2003, pp:833-839, Austin, Texas, [with Gul Tokdemir and Murat M. Tanik].
77. Design Effort Estimation using Complexity Metrics, The Seventh World Conference on Integrated Design and Process Technology. December 3-6, 2003, pp:387-390, Austin, Texas, [with Nael Salman].
78. Comparison of three Architecture Description Languages based on a Case Study, The Seventh World Conference on Integrated Design and Process Technology. December 3-6, 2003, pp:397-403, Austin, Texas, [with Aysegul Tunc and Halit Oguztuzun].
79. İşsizlik Sigortası Sisteminin Bileşen Yönelimli Modellemesi, 1.Ulusal Yazılım Mühendisliği

- Sempozyumu, 23-25 Ekim 2003, İzmir [with Hüseyin Cahit Ekiz and Halit Oğultüzün].
80. Design Effort Estimation through Component Oriented complexity Metrics, Proceedings of the Work in Progress Session held in Connection with the 29th EuroMicro Conference Euromicro 2003 nad the Euromicro symposium on digital system Design DSD 2003, Belek (Turkey), September 2003. ISBN: 3-902457-21-x [with Nael Salman].
  81. Formal Modeling for the Composition of Virtual Enterprises, IEEE, TC-ECBS, and IFIP WG 10.1 Joint Workshop on Formal Specifications of Computer-Based Systems, April 10,11 2002, pp:85-90, Lund, Sweden, [with Ayesha Manzer].
  82. Building a set of Components for Agent-Based E-Commerce, The Sixteenth International Symposium on Computer and Information Sciences, November 5-6, 2001, Kemer, Antalya, [with Ayesha Manzer].
  83. Case Studies Using Course Projects for Component Oriented Modeling, Integrated Design and Process Technology Workshop on Global Transdisciplinary Education Research and Training, June 10-13, 2001, Pasadena, California, [with Ilkay Altintas].
  84. A Framework for Self-learning E-commerce Agents, Integrated Design and Process Technology Workshop on Global Transdisciplinary Education Research and Training, June 10-13, 2001, Pasadena, California, [with Ayesha Manzer].
  85. Modeling Language for Component-Oriented Software Engineering: COSEML, The Fifth World Conference on Integrated Design and Process Technology. June 4-8, 2000, Dallas, Texas, [with I. Altintas].
  86. A Modeling Framework for Software Components, The Fifth World Conference on Integrated Design and Process Technology. June 4-8, 2000, Dallas, Texas, [with Y.Tang, M.M. Tanik, and F. Kurfess].
  87. Developing Secure Information Systems through Applying Software Engineering Techniques, The Fourth World Conference on Integrated Design and Process Technology. June 4-8, 2000, Dallas, Texas, [with O.A. Rayis].
  88. A Component Framework for Developing Secure Groupware, The fourteenth international Symposium on Computer and Information Sciences, October 18-20, 1999, Kuşadası, Turkey, pp:151-159, [with O.A. Rayis].
  89. Green Manufacturing of Ammunition through Knowledge Management with Distributed Access, The 32nd Annual Hawaii International Conference on System Sciences. January 5-8, 1999, Maui, Hawaii, [with M.M. Tanik, M. Healey, F. Kurfess, and L.K. Jololian].
  90. Cyclomatic Complexity based-on Cubic Flowgraphs, the Third World Conference on Integrated Design and Process Technology. July 6-9 1998, Berlin, Germany, [with Y.Tank and M.M. Tanik].
  91. Design for Environment Tools: Current Status and Beyond, the Third World Conference on Integrated Design and Process Technology. July 6-9 1998, Berlin, Germany, [with R.J. Caudill and L.K. Jololian].
  92. Material-flow Modeling for Design for Environment, the Third World Conference on Integrated Design and Process Technology. July 6-9 1998, Berlin, Germany, [with D. Sebastian and Y. Calis].
  93. Confirmation to Organizational Standards through Process Modeling Tools. The Second World Conference on Integrated Design and Process Technology, December 1-4, 1996, Austin, Texas. [with Yilmaz Calis]
  94. Two Layer Fuzzy System of Control over Complex Technological Processes. Second International Mechatronic Design and Modeling Workshop, November 13-17, 1995, Ankara, Turkey, pp: 107-117, [with A.M. Abbasov, M.H. Mamedova, M.E. Eminov, S. Neftci, and A. Yazici].
  95. Knowledge Organization Methods in Complex Distributed Control systems. 7<sup>th</sup> International



- Machine Design and Production Conference, September 11-13, Ankara, Turkey [Ali M. Abbasov, Masuma H. Mamedova, Mubariz E. Eminov, Sinan Neftçi, Adnan Yazici, Ali H. Dogru]
96. Prototyping Specifications through Visualization. The First World Conference on Integrated Design and Process Technology, December 8-9, 1995, Austin, Texas, Vol. 1 pp:362-368, [with Huseyin Dursun].
  97. Rapid Prototyping through Functional Programming and Formal Specification. The Third International Conference on System Integration (ICSI), August 15-19, 1994, Sao Paulo, Brazil, Vol. 1 pp: 46-52, [with H. Dursun].
  98. Interactive System Designing with SDE. ASME-ESDA Conference, July 4-7 1994, London, England, PD-Vol. 64-5 pp: 579-582, [with H. C. Kim and M. M. Tanik].
  99. Exploring Exercisability in System Specification. ASME-ESDA Conference, July 4-7 1994, London, England, PD-Vol. 64-5 pp: 331-334.
  100. Fast Prototyping through Functional Programming in Engineering. ASME-ESDA Conference, July 4-7 1994, London, England, PD-Vol. 64-5 pp: 483-486, [with H. Dursun].
  101. System Design Activity Modeling with Cellular Automata. ASME-ETCE Conference Software Systems in Engineering Symposium, January 23-26 1994, New Orleans, Louisiana, PD-Vol. 59 pp: 219-226, [with Coskun Bayrak, and Murat M. Tanik].
  102. A Design Level Process Modeling Language. ASME-ETCE Conference Software Systems in Engineering Symposium, January 23-26 1994, New Orleans, Louisiana, PD-Vol. 59 pp: 203-207, [with Suzanne N. Delcambre and Murat M. Tanik].
  103. Self Contained CAD Expert Systems: Further Requirements. ASME-ETCE Conference Software Systems in Engineering Symposium, January 23-26 1994, New Orleans, Louisiana, PD-Vol. 59 pp: 131-135, [with Daniela D. Marghitu, Murat M. Tanik, and Nicolae N. Sprinceana].
  104. Using Inheritance for Similarity Representation and Reusability Measurement in Software Design. ASME Energy-Sources Technology Conference and Exhibition (ETCE), January 1993, Houston, Texas, [with W.P. Yin and M.M. Tanik].
  105. Active Design Components for System Design Environments. ASME EnergySources Technology Conference and Exhibition (ETCE), January 1993, Houston, Texas, [with M.G. Christiansen, C. Bayrak, and M.M. Tanik].
  106. Intelligent CAD Systems: A Requirements Study, The 16<sup>th</sup> Annual ASME Energy-Sources Technology Conference and Exhibition (ETCE), January 31-February 4, 1993, Houston, Texas, [Daniela Marghitu, Ali H. Dogru]
  107. The Development of an Integrated System Design Environment. The Second IEEE/ACM International Conference on System Integration(ICSI), June 15-18, 1992, Morristown, NJ., pp. 691-698, [with S. N. Delcambre, C. Bayrak, M. G. Christiansen, and M. M. Tanik].
  108. Parallel Computation with Cellular Automata. ASME-European Joint Conference on Engineering Systems Design & Analysis(ESDA), June 29-July 3, 1992, Istanbul, Turkey, [with C. Bayrak, and W. J. B. Oldham].
  109. From System Specification to SISAL Code: Experience and an Example. ASME-European Joint Conference on Engineering Systems Design & Analysis(ESDA), June 29-July 3, 1992, Istanbul, Turkey, [with J. R. Sullins, and M. M. Tanik].

### **Invited Talks**

- End User Development: An Experience in Bridging Research with Industry . CSSE 2015: The 20th International Symposium on Computer Science and Software Engineering (CSSE 2015), August 18, 19, 2015, Tabriz university, Tabriz, Iran.

- End User Development: An Experience in Bridging Research with Industry. ATSEN 2014: 1<sup>st</sup> Workshop on Advanced Topics in Software Engineering, November 7, 2014. İstanbul Kültür Üniversitesi

### Publications in Progress

- Efficient Evaluation of Event incorporating Rules, with Ozgur Kaya and Selma Süloğlu
- Variability centered composition.
- Conflict Resolution and Analysis tools for Temporal Rules.

### Theses Supervision

11 Ph.D. Dissertations (listed below) and 48 M.S. Theses supervised.

Title	Author	Co-Supervisor	Date
An agile business software development methodology	Davut Çulha		September 2014
A Rule-based Domain Specific Language for Fault Management	Özgür Kaya		February 2014
Model-driven Variability Management in Choreography Specification	Selma Süloğlu	Bedir Tekinerdoğan	September 2013
Analysis of Extended Feature Models with Constraint Programming	Ahmet Serkan Karataş;	Ali Doğru – (Principal: Halit Oğuztüzün)	June 2010
A Metrics-based Approach to the Testing Process and Testability of Object Oriented Software Systems	Tolga Yurga	Semih Bilgen	February 2009
In Turkish: (Askeri Uygulamalarda Kullanılan Yazılım Geliştirme Standartlarının Değişimi, Gelişimi ve Gelecek ile ilgili Tahminler) Evolution and Development of Software Development Standards in Military Domain and a Forecast for the Future*	Burak CODUR		March 30, 2009
Feature-Based Software Asset Modeling with Domain Specific Kits	Nesip İlker Altıntaş	Semih Çetin	August 2007
Systematic Component-Oriented Development with Axiomatic Design	Cengiz Toğay		July 2008
A Measurement Framework for Component Oriented Software Systems	Nael Salman		November, 2006
Formalization of Core-Competency Processes for Integration of Value-add Chains	Ayesha Manzer		July, 2002
Total Security Management – A Paradigm for Developing Secure Information Systems	Osama Abdelwahab RAYIS		April 2000

\* Turkish Military Academy Defence Science Institute, Department of Technology Management

## PhD Examinations

More than 10 PhD evaluation committee memberships, some listed below:

PhD Candidate	Dept*	Date	Supervisor
Ethem Arkin	CEng Hacettepe U.	2015/ 4 / 9	Kayhan İmre, Bedir Tekinerdoğan
Mustafa Dursun	EEE	2015 / 2 / 11	Semih Bilgen
Alex McFie	CS-UoW/London	2014/ 7 / 2	Radmila Juric
Gökhan Kahraman	EEE	2013 / 9 / 3	Semih Bilgen
Umut Tosun	CEng	2013 / 2 / 13	Ahmet Coşar
Bülent Mehmet Adak	CEng	2007 / 12	Halit Oğuztüzün
Okan Topçu	CEng	2007/12	Halit Oğuztüzün
Aydın Okutanoğlu	CEng	2008 / 9	Müslim Bozyiğit
Ali Bokar	CEng	2009 / 1	Müslim Bozyiğit
Özgür Tanrıöver	II	2008/9/8	Semih Bilgen
Oktay Türetken	II	2007/6/29	Onur Demirörs
Ayça Tarhan	II	2006	Onur Demirörs
Çiğdem Gencil	II	2005 / 7	Onur Demirörs

\* EEE: Electrical and Electronics Engineering, CEng: Computer Engineering, II: Informatics Institution.

## Samples from Technical Reports

1. Component-based Technology for the Engineering of Virtual Enterprises and Software. 1998. TR-98-7, Computer Engineering Department, Middle East Technical University [with L. K. Jololian and Murat M. Tanik].
2. Design Level Process Modeling of System Design Activity. SMU-TR-93-CSE-16, March, 1993, 23 pp., [with S. N. Delcambre and M. M. Tanik].
3. DARMS User Manual version 1.0. SMU-TR-90-CSE-29, September, 1990, 58pp., [with C. Bayrak, Y.T. Chen, W. Westerman, and M. M. Tanik].
4. An Operational Tutorial for X-WINDOWS. SMU-TR-90-CSE-21, June, 1990, 39pp., [with C. Bayrak, J. Dances, and M. M. Tanik].

## Samples from Presentations

1. Material-flow Modeling for Design for Environment, poster presented at Multi-Lifecycle Engineering Research Center, New Jersey Institute of Technology, February 12, 1998, [with D. Sebastian, M. Tanik].
2. Development of Intelligent CAD Systems. The 16th Annual Computer Science Conference, Federation of North Texas Area Universities, Hewlett Packard, Irving, Texas, April 24, 1992, [with D. D. Marghitu, N. Sprinceana, and D. Johnson].
3. A Network Operating System for Computer Integrated Manufacturing. The 13th Annual Computer Science Conference, Federation of North Texas Area Universities, NTSU, Denton, April 1988, [with M. Milenkovic and M. M. Tanik].

## Grants

1. YALIN, Bursa, Turkey, End User Development Framework for Textile Domain. 12/2011- ...
2. ASELSAN, Ankara, Turkey, Rule-based and Checkpointing approaches for Fault Management Infrastructure (HAYAT), 10/2009-5/2010, extended currently (2011).
3. STM, Ankara, Turkey, Net Enabled Capabilities, 9/2008-5/2009.
4. HAVELSAN, Ankara, Turkey, Peace Eagle, Avionics middleware,4/2008-4/2010.

5. ASELSAN, Ankara, Turkey, Fault Management Reference Architecture, 2007.
6. ASELSAN, Ankara, Turkey, Fault Management Infrastructure, 2006.
7. HAVELSAN, Ankara, Turkey, Meltem-2, Avionics middleware, 2005.
8. SPACSoft, Ankara, Turkey, SPAC SOFT R/D Project (Statistics Package), 2004.
9. FILCO TR, Ankara, Turkey, Estimation Consultancy, 2003.
10. Imaging Devices Inc, Boston, MA, 2000with Volkan Atalay.
11. PCK Elektronik, Ankara, Turkey, 2000 with Volkan Atalay.
12. TÜBİTAK - DOPROG, 1994, with S.Neftci, A. Yazici, A. Abbasov, M. Eminov and M. Mamedova. (TÜBİTAK is the Turkish Science and Technology Research Foundation).
13. DPT, Turkey, 1993 (DPT: the Planning Organization of Turkey).
14. TÜBİTAK, Turkey, (Post-Doctorate Research Support Program), 1994
15. TÜBİTAK, Turkey, (Research Infrastructure Support Program), 1993,with A. Arifoglu.

## **PROFESSIONAL SERVICE**

### **Awards, letters and positions**

- SDPS Fellow, the Society for Design and Process Science, Fort Worth, Texas, November 1, 2015.
- Vice president, Software Engineering Society, SDPS, since November 1, 2015.
- Excellence in Leadership, Software Engineering Society, SDPS, Montgomery, Alabama, November 2009.
- Academic performance award, Engineering Faculty, METU, 2007.
- Best student evaluation for undergraduate course instructors in Computer Engineering Dept., METU, 2003.
- Academic performance award, Engineering Faculty, METU, 2003.
- Best student evaluation for graduate course instructors in Computer Engineering Dept., METU, 2002.
- Outstanding Contribution to the ESDA Technical Program, by American Society of Mechanical Engineers (ASME), July 1994, London, England.

### **Project Consulting / Training**

Periodically monitoring and reporting on different government supported industrial projects. Also consulting for individual projects. The project domains are:

- End User Development
- Service Oriented Architecture for large scale applications, including Net Centric Capability
- Reference Architecture for Software Product Lines
- Fault Tolerance and Fault Management
- Hospital Automation
- Avionics Software
- ERP
- Document Management
- Network Management
- E-commerce
- Statistical Packages

Conducted training for 12 different software organizations and government departments in:

- UML based Object Oriented Development
- Software Engineering

### **Reviewing**

- Future Generation Computer Systems, Elsevier, 2015-2016.
- JDMS 2011
- IEEE Internet Computing 2007 - 2008
- IEEE Software 2008
- The Third IEEE International Workshop on Software Cybernetics, September 18-21, 2006, Chicago.
- International Symposium on Software Engineering for Parallel and Distributed Systems: PDSE2000, 10-11 June 2000, Limerick, Ireland.
- 8<sup>th</sup> European Conference on Information Systems: ECIS 2000, July 3-5, 2000, Vienna University of Economics and Business Administration, Vienna, Austria.
- International Workshop on Issues and Applications of Database Technology (IADT'98), for the Third World Conference on Integrated Design and Process Technology, '98.
- IEEE/ACM International Conference on System Integration(ICSI), '92.
- ASME Energy-Sources Technology Conference and Exhibition (ETCE), '91, '92, '93.
- ASME European Joint Conference on Engineering Systems Design & Analysis(ESDA), '92.

### **Conference and Session Organization**

- Conference Co-chairman, SDPS 2015, Fort Worth, Texas, 2015.
- Doctoral Symposium Co-chairman, COMPSAC 2012, July 16-20, Izmir, Turkey.
- Program Committee Co-chairman, SDPS 2012, June 10-14, 2012, Berlin, Germany.
- Program Committee Co-chairman, SDPS 2011, June 12-16, 2011, Jeju, S. Korea.
- Program Committee Co-chairman: The 5th Turkish Software Engineering Symposium (UYMS 2011), September 26-28, 2011, Ankara Turkey
- Program Committee Co-chairman, SDPS 2010, Dallas, Texas, USA.
- Executive Committee, Turkish Software Architecture Conference (UYMK 08), Izmir, Turkey.
- Organizing Board Member: ISCIS 2007, Ankara, Turkey
- Organizing Board Member: The 1<sup>st</sup> Turkish Software Architecture Conference (UYMK 06), 2006, Istanbul, Turkey
- Organizing Board Member: The 2<sup>nd</sup> Turkish Software Engineering Symposium (UYMS 05), September 22-24, 2005, Ankara Turkey
- Chairman and Developer: Software Session, Integrated Design and Process Symposium, June 28 – July 2, 2004, Kusadasi, Izmir, Turkey.
- Chairman and Developer: Session 36 (Manufacturing). The Third World Conference on Integrated Design and Process Technology. July 6-9 1998, Berlin, Germany.
- Chairman: Session 18: Process modeling, Monitoring and Control. The Second World Conference on Integrated Design and Process Technology, December 1-4, 1996, Austin, Texas.
- Chairman: Session 4Eb (Software): Computer Systems. The Third International Conference on System Integration (ICSI), August 15-19, 1994, Sao Paulo, Brazil
- Chairman: Computer Applications Session, ASME Second International Engineering Systems Design and Analysis (ESDA) Conference, July 4-7, 1994, London, England.

- Vice-Chairman: ASME Energy-Sources Technology Conference and Exhibition (ETCE), January 1993, Houston, Texas.

Organization, leading, and contribution for various panel discussions in different conferences/

#### **AFFILIATIONS and SERVICE**

- Member: NATO Modeling and Simulation Group, for Project: MSG 073 -Generic Methodology for Verification and Validation of Models, Simulations and Data.
- Founding Director, Verification and Validation Center for Modeling and Simulation, METU-TAF MODSIMMER.
- Executive Board Member, METU e-Government Center
- Member, SDPS, and TBD (TBD: Turkish Informatics Association), and previously IEEE and ACM.
- Executive Committee Member, Turkish American Federation of the Northern Texas, '85-'91.
- Cross-cultural training, General Dynamics, Fort Worth, Texas, '86-'87.
- Member, Dallas International Folk Dancers Club.

#### **REFERENCES**

Will be submitted upon request

Date prepared: February 2016