

Hüsnü Yenigün

Personal Information

Address: Sabancı University, FENS 2094, Orhanlı-Tuzla 34956 İSTANBUL
Date/place of birth : August 18, 1970 / Aydın, Turkey
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Education

Ph.D. (1995 – 2000)

Middle East Technical University
Department of Electrical & Electronics Engineering
Ankara, Turkey

M.Sc. (1992 – 1995)

Middle East Technical University
Department of Electrical & Electronics Engineering
Ankara, Turkey

B.Sc. (1987 – 1992)

Middle East Technical University
Department of Electrical & Electronics Engineering
Ankara, Turkey

Work experience

2002 - Sabancı University <i>Faculty Member</i>		İstanbul, Turkey
2001 - 2002 <i>Instructor</i>	Sabancı University	İstanbul, Turkey
1998 - 2001 <i>Consultant</i>	Lucent Technologies / Bell Labs	Ankara, Turkey
1997 – 1998 <i>Researcher</i>	Lucent Technologies / Bell Labs	NJ, USA
1992 – 1997 <i>Researcher</i>	TÜBİTAK / Software R&D Center	Ankara, Turkey

Languages

Turkish, English

Courses taught

Undergraduate: Algorithms, Programming Languages, Compiler Design
Graduate: Formal Methods for Reliable Digital Systems

Research Interests

Formal methods, formal verification, model checking, partial order reduction methods, hardware/software co-verification, software engineering, automata and concurrency theory, formal approaches for testing, finite state machine based testing, checking sequences.

Scientific Committee Memberships

- TPC Member of Ulusal Yazilim Muhendisligi Sempozyumu - National Symposium on Software Engineering (UYMS 2015)
- TPC Member of Yazilim Test Muhendisligi Alt Alani, Ulusal Yazilim Muhendisligi Sempozyumu - Software Test Engineering Track, National Symposium on Software Engineering (YTM 2015)
- TPC Member of 27th IFIP International Conference on Testing Software and Systems (ICTSS 2015)
- TPC Member of 9th South East European Doctoral Student Conference (DSC 2014) - RT2 Information & Communication Technologies
- TPC Member of Ulusal Yazilim Muhendisligi Sempozyumu - National Symposium on Software Engineering (UYMS 2014) [in Turkish]
- TPC Member of 26th IFIP International Conference on Testing Software and Systems (ICTSS 2014)
- TPC Member of Fourth International Workshop on Regression Testing (Regression 2014)
- Steering Committee Member of International Conference on Testing Software and Systems (2013-...)
- Organizer of The 25th IFIP International Conference on Testing Software and Systems (ICTSS 2013)
- TPC Member of 8th South East European Doctoral Student Conference (DSC 2013)
- Panel Co-chair of IEEE Conference on Computers, Software, and Applications (COMPSAC 2012)
- TPC Member of 4th IEEE International Workshop on Software Test Automation (STA 2012)
- TPC Member of 10th International Conference on Software Engineering and Formal Methods (SEFM 2012)
- TPC Member of 7th South East European Doctoral Student Conference (DSC 2012)
- TPC Member of 26th International Symposium on Computer and Information Sciences (ISCIS 2011)
- TPC Member of 3rd Workshop on Model-Based Verification and Validation (MVV 2011) - From Research to Practice
- TPC Member of 6th South East European Doctoral Student Conference (DSC 2011)
- TPC Member of 7th International Colloquium on Theoretical Aspects of Computing (ICTAC 2010)
- TPC Member of 2nd Model-Based Verification & Validation (MVV 2010) - From Research to Practice
- TPC Member of 5th South East European Doctoral Student Conference (DSC 2010)
- TPC Member of 25th International Symposium on Computer and Information Sciences (ISCIS 2010)
- Session chair at 24th International Symposium on Computer and Information Sciences (ISCIS 2009)
- TPC Member of Doctoral Symposium associated with 16th International Symposium on Formal Methods (FM2009-DS)
- TPC Member of 16th International Symposium on Formal Methods (FM2009)
- TPC Member of 6th International Colloquium on Theoretical Aspects of Computing (ICTAC 2009)

- TPC Member of Model-Based Verification & Validation (MVV09) - From Research to Practice
- TPC Member of 4th Balkan Conference in Informatics (BCI09)
- TPC Member of National Congress of Electrical, Electronics, Computer and Biomedical Engineering 2009 [in Turkish]
- Organizer of 5th International Colloquium on Theoretical Aspects of Computing (ICTAC 2008)
- TPC Member of and session chair at 23rd International Symposium on Computer and Information Sciences (ISCIS 2008)
- Reviewer for International Symposium on Wireless Pervasive Computing (ISWPC 2008)
- TPC Member of 3rd South East European Workshop on Formal Methods (SEEFM 2007)
- TPC Member of 22nd International Symposium on Computer and Information Sciences (ISCIS 2007)
- TPC Member of 18th IFIP International Conference on Testing Communicating Systems (TestCom 2006)
- Organizer of 21st International Symposium on Computer and Information Sciences (ISCIS 2006)
- TPC Member of Ulusal Yazilim Muhendisligi Sempozyumu - National Symposium on Software Engineering (UYMS 2005-2006-2007-2009-2011) [in Turkish]
- Reviewer for 20th International Symposium on Computer and Information Sciences (ISCIS 2005)
- TPC Member of 2nd South East European Workshop on Formal Methods (SEEFM 2005)
- TPC Member of 1st South East European Workshop on Formal Methods (SEEFM 2003)

Publications

- Hüsni Yenigün, Cemal Yilmaz, Andreas Ulrich, "Advances in Test Generation for Testing Software and Systems", International Journal on Software Tools for Technology Transfer, (accepted).
DOI: 10.1007/s10009-015-0404-z
- Uraz Cengiz Türker, Tonguç Ünlüyurt, Hüsni Yenigün, "Effective Algorithms for Constructing Minimum Cost Adaptive Distinguishing Sequences", Information and Software Technology, 74, pp. 69-85, Jun 2016.
DOI: 10.1016/j.infsof.2016.02.001
- Hüsni Yenigün, Nina Yevtushenko, Natalia Kushik, "Some Classes of Finite State Machines with Polynomial Length of Distinguishing Test Cases", Software Verification and Testing (SVT 2016), Pisa, Italy, Apr 3-8, 2016.
- [48] Guy Vincent Jourdan, Hasan Ural, Hüsni Yenigün, "Reducing Locating Sequences for Testing from Finite State Machines", Software Verification and Testing (SVT 2016), Pisa, Italy, Apr 3-8, 2016.
- Canan Güniçen, Guy-Vincent Jourdan, Hüsni Yenigün, "Using Multiple Adaptive Distinguishing Sequences for Checking Sequence Generation", 27th IFIP International Conference on Testing Software and Systems (ICTSS 2015), Lecture Notes in Computer Science vol. 9447, pp. 19-34, Sharjah/Dubai, UAE, Nov 23-25, 2015.
DOI: 10.1007/978-3-319-25945-1_2
- Natalia Kushik, Hüsni Yenigün, "Heuristics for Deriving Adaptive Homing and Distinguishing Sequences for Nondeterministic Finite State Machines", 27th IFIP International Conference on Testing

Software and Systems (ICTSS 2015), Lecture Notes in Computer Science vol. 9447, pp. 243-248, Sharjah/Dubai, UAE, Nov 23-25, 2015.
DOI: 10.1007/978-3-319-25945-1_15

- Guy Vincent Jourdan, Hasan Ural, Hüsnü Yenigün, "Reduced Checking Sequences using Unreliable Reset", Information Processing Letters, 115(5), pp. 532-535, May 2015.
DOI: 10.1016/j.ipl.2015.01.002

- Uraz Cengiz Türker, Hüsnü Yenigün, "Complexities of Some Problems Related to Synchronizing, Nonsynchronizing and Monotonic Automata", International Journal of Foundations of Computer Science, 26(1), pp. 99-121, January 2015.
DOI: 10.1142/S0129054115500057

- Uraz Cengiz Türker, Tonguç Ünlüyurt, Hüsnü Yenigün, "Lookahead-based Approaches for Minimizing Adaptive Distinguishing Sequences", The 26th IFIP International Conference on Testing Software and Systems (ICTSS 2014), Lecture Notes in Computer Science vol. 8763, pp. 32-47, Madrid, Spain, Sept 23-25, 2014.
DOI: 10.1007/978-3-662-44857-1_3

- Canan Güniçen, Kemal İnan, Uraz Cengiz Türker, Hüsnü Yenigün, "An Improved Upper Bound for the Length of Preset Distinguishing Sequences of Distinguished Merging Finite State Machines", 29th International Symposium on Computer and Information Sciences (ISCIS 2014), Information Sciences and Systems 2014, pp. 325-335, Krakow, Poland, Oct 27-28, 2014.
DOI: 10.1007/978-3-319-09465-6_34

- Canan Güniçen, Kemal İnan, Uraz Cengiz Türker, Hüsnü Yenigün, "The Relation between Preset Distinguishing Sequences and Synchronizing Sequences", Formal Aspects of Computing, 26(6), pp. 1153-1167, Nov 2014.
DOI: 10.1007/s00165-014-0297-8

- Uraz Cengiz Türker, Hüsnü Yenigün, "Hardness and Inapproximability of Minimizing Adaptive Distinguishing Sequences", Formal Methods in System Design, 44(3), June 2014.
DOI: 10.1007/s10703-014-0205-0

- Husnu Yenigun, Cemal Yilmaz, Andreas Ulrich (Eds), "Testing Software and Systems - 25th IFIP WG 6.1 International Conference - ICTSS 2013", Istanbul, Turkey, November 13-15, 2013, Proceedings. Lecture Notes in Computer Science 8254, Springer 2013.
DOI: 10.1007/978-3-642-41707-8

- Hüsnü Yenigün, "Identifying the Effects of Modifications as Data Dependencies", Software Quality Journal, 2013.
DOI: 10.1007/s11219-013-9213-3

- Canan Güniçen, Esra Erdem, Hüsnü Yenigün, "Generating Shortest Synchronizing Sequences using Answer Set Programming", 6th Workshop on Answer Set Programming and Other Computing Paradigms (ASPOCP), pp 117-127, 25 August 2013, Istanbul, Turkey.

- İbrahim Muter, Ş. İlker Birbil, Kerem Bülbül, Güvenç Şahin, Hüsnü Yenigün, Duygu Taş, Dilek Tüzün, "Solving a Robust Airline Crew Pairing Problem with Column Generation", Computers & Operations Research, 40(3), pp 815-830, March 2013.
DOI: 10.1016/j.cor.2010.11.005

- Hasan Ural, Hüsnü Yenigün, "Regression test suite selection using dependence analysis", Journal of Software: Evolution and Process. (Accepted/In Press)
DOI: 10.1002/smr.1559

- Hasan Ural, Hüsnü Yenigün, "On Capturing Effects of Modifications as Data Dependencies", Computer Software and Applications Conference (COMPSAC), 2012 IEEE 36th Annual , pp.350-351, 16-20 July 2012.
DOI: 10.1109/COMPSAC.2012.50]

- Canan Güniçen, Uraz Cengiz Türker, Hasan Ural, Hüsnü Yenigün, "Generating Preset Distinguishing Sequences Using SAT", 26th International Symposium on Computer and Information Sciences (ISCIS 2011).

DOI: 10.1007/978-1-4471-2155-8_62

- Ş. İlker Birbil, Kerem Bülbül, Erdal Mutlu, Hüsnü Yenigün, "High Level Rule Modeling Language for Airline Crew Pairing", Symposium on Computer Languages, Implementations and Tools (SCLIT 2011).

DOI: 10.1063/1.3636853

- Hasan Ural and Husnu Yenigun, "Dependence Analysis for Regression Test Suite Selection and Augmentation", in Proceedings 24th International Symposium on Computer and Information Sciences (ISCIS 2010), Lecture Notes in Electrical Engineering, 2010, Volume 62, Part 5, pp. 143-148.

DOI: 10.1007/978-90-481-9794-1_29

- Guy-Vincent Jourdan, Hasan Ural, Husnu Yenigun, and Ji Chao Zhang, "Lower Bounds on Lengths of Checking Sequences", Formal Aspects of Computing, 22(6), pp.667-679, 2010.

DOI: 10.1007/s00165-009-0135-6

- Robert M. Hierons, Guy-Vincent Jourdan, Hasan Ural, and Husnu Yenigun, "Checking Sequence Construction Using Adaptive and Preset Distinguishing Sequences", in Proceedings of 7th IEEE International Conference on Software Engineering and Formal Methods (SEFM 2009), pp.157-166, Hanoi, Vietnam, November 23-27, 2009.

DOI: 10.1109/SEFM.2009.12

- Guy-Vincent Jourdan, Hasan Ural, Husnu Yenigun, and Dong Zhu, "Using a SAT Solver to Generate Checking Sequences", in Proceedings of 24th International Symposium on Computer and Information Sciences (ISCIS 2009), pp.584-589, Northern Cyprus, September 14-16, 2009.

DOI: 10.1109/ISCIS.2009.5291883

- Guy-Vincent Jourdan, Hasan Ural, and Husnu Yenigun, "Combining Adaptive Tests", in Proceedings of 23rd International Symposium on Computer and Information Sciences (ISCIS 2008), Istanbul, Turkey, October 27-29, 2008.

DOI: 10.1109/ISCIS.2008.4717872

- John Fitzgerald, Anne Haxthausen, Husnu Yenigun (Eds), "Theoretical Aspects of Computing - ICTAC 2008", Istanbul, Turkey, September 1-3, 2008, Proceedings, Lecture Notes in Computer Science vol. 5160.

DOI: 10.1007/978-3-540-85762-4

- Robert M. Hierons, Guy-Vincent Jourdan, Hasan Ural, and Husnu Yenigun, "Using Adaptive Distinguishing Sequences in Checking Sequence Constructions", in Proceedings of 23rd Annual ACM Symposium on Applied Computing (ACM SAC 2008), pp. 682-687, March 16-20, 2008, Fortaleza, Brazil.

DOI: 10.1145/1363686.1363850

- Erhan Budak, Bulent Catay, Ibrahim Tekin, Husnu Yenigun, Mehmet Abbak, Sergei Drannikov, and Oya Simsek, "Design of an RFID-based Manufacturing Monitoring and Analysis System", in Proceedings of 1st Annual RFID Eurasia Conference, September 5-7, 2007, Istanbul, Turkey.

DOI: 10.1109/RFIDEURASIA.2007.4368134

- Erhan Budak, Bulent Catay, Ibrahim Tekin, Husnu Yenigun, Mehmet Abbak, and Sergei Drannikov, "Microstrip Patch Antenna for RFID Applications", in Proceedings of 1st Annual RFID Eurasia Conference, September 5-7, 2007, Istanbul, Turkey.

DOI: 10.1109/RFIDEURASIA.2007.4368135

- Guy-Vincent Jourdan, Hasan Ural, Shen Wang, and Husnu Yenigun, "Recovering Repetitive Sub-functions from Observations", in Proceedings of 26th International Conference on Formal Techniques

for Networked and Distributed Systems (FORTE 2007), Lecture Notes in Computer Science vol. 4574, pp. 35-49, June 27-29, 2007, Tallinn, Estonia.
DOI: 10.1007/978-3-540-73196-2_3

- Albert Levi, Erkey Savas, Husnu Yenigun, Selim Balcişoy, Yucel Saygin (Eds), "Computer and Information Sciences - ISCIS 2006, 21th International Symposium", Istanbul, Turkey, November 1-3, 2006, Proceedings, Lecture Notes in Computer Science vol. 4263.
DOI: 10.1007/11902140

- Guy-Vincent Jourdan, Hasan Ural, and Husnu Yenigun, "Minimizing Coordination Channels in Distributed Testing", in Proceedings of 26th International Conference on Formal Techniques for Networked and Distributed Systems (FORTE 2006), Lecture Notes in Computer Science vol. 4229, pp. 451-466, September 26-29, 2006, Paris, France.
DOI: 10.1007/11888116_32

- M. Cihan Yalcin and Husnu Yenigun, "Using Distinguishing and UIO Sequences Together in a Checking Sequence", in Proceedings of 18th IFIP TC6/WG 6.1 International Conference (TestCom 2006), Lecture Notes in Computer Science vol. 3964, pp. 259-273, New York, USA, May 16-18, 2006.
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- Guy-Vincent Jourdan, Hasan Ural, and Husnu Yenigun, "Recovering the Lattice of Repetitive Sub-functions", in Proceedings of 20th International Symposium on Computer and Information Sciences (ISCIS 2005), Lecture Notes in Computer Science vol. 3733, pp. 956 - 965, Istanbul, Turkey, October 26-28, 2005.
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- K. Tuncay Tekle, Hasan Ural, M. Cihan Yalcin, and Husnu Yenigun, "Generalizing Redundancy Elimination in Checking Sequences", in Proceedings of 20th International Symposium on Computer and Information Sciences (ISCIS 2005), Lecture Notes in Computer Science vol. 3733, pp. 915 - 926, Istanbul, Turkey, October 26-28, 2005.
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- Jessica Chen, Robert M. Hierons, Hasan Ural, and H. Yenigun, "Eliminating Redundant Tests in a Checking Sequence", in Proceedings of 17th IFIP TC6/WG 6.1 International Conference (TestCom 2005), Lecture Notes in Computer Science vol. 3502, pp. 146-158, Montreal, Canada, May 31-June 2, 2005.
DOI: 10.1007/11430230_11

- Hasan Ural and Husnu Yenigun, "Towards Design Recovery from Observations", in Proceedings of 24th International Conference on Formal Techniques for Networked and Distributed Systems (FORTE 2004), Lecture Notes in Computer Science vol. 3235, pp. 133-149, Madrid, Spain, September 27-30, 2004.
DOI: 10.1007/b100576

- Robert P. Kurshan, Vladimir Levin, Marius Minea, Doron Peled, and Husnu Yenigun, "Combining Software and Hardware Verification Techniques", Formal Methods in Systems Design, 21(3), 2002.
DOI: 10.1023/A:1020383505582

- Robert P. Kurshan, Vladimir Levin, and Husnu Yenigun, "Compressing Transitions for Model Checking", in Proceedings of 14th International Conference on Computer Aided Verification (CAV), Lecture Notes in Computer Science vol. 2404, pp. 569-581, Copenhagen, Denmark, July, 27-31, 2002.

- Vladimir Levin and Husnu Yenigun, "SDLcheck: A Model Checking Tool", in Proceedings of Computer Aided Verification (CAV), 13th International Conference, Lecture Notes in Computer Science 2102, Paris, France, July 18-22, 2001.

- Husnu Yenigun, "Static Partial Order Reduction and Model Checking of Hardware/Software Co-design Systems", Ph.D. Thesis, Middle East Technical University, July 2000.

- Husnu Yenigun, Vladimir Levin, Doron Peled, and Peter A. Beerel, "Hazard-Freedom Checking in Speed-Independent Systems", in Proceedings of 10th IFIP WG10.5 Advanced Research Working Conference on Correct Hardware Design and Verification Methods, Bad Herrenalb, Germany, September 1999.

- Robert P. Kurshan, Vladimir Levin, Marius Minea, Doron Peled, and Husnu Yenigun, "Static Partial Order Reduction", in Proceedings of TACAS 98 Workshop on Tools and Algorithms for the Construction and Analysis of Systems, Lecture Notes in Computer Science vol. 1384, pp. 345-357, Springer, Lisbon Portugal, 1998.
DOI: 10.1007/BFb0054182

- Robert P. Kurshan, Vladimir Levin, Marius Minea, Doron Peled, and Husnu Yenigun, "Verifying Hardware in its Software Context", in Proceedings of International Conference on Computer Aided Design ICCAD, pp. 742-749, San Jose CA USA, 1997.

- Husnu Yenigun and Kemal Inan, "Verification Using Leap Automata", in Proceedings of 2nd International Workshop on Applied Formal Methods in System Design, Zagreb Croatia, June 1997.

- Husnu Yenigun, "A New Algebraic Language ERPAL and Translation of a Subset of SDL-92 into ERPAL", M.Sc. Thesis, Middle East Technical University, January 1995.

- Ali Sezgin, Husnu Yenigun, and Kemal Inan, "ERPAL: A New Algebraic Language with Novel Features", in Proceedings of the 10th International Symposium on Computer and Information Sciences (ISCIS X), October 1995, pp. 635-650, Kusadasi, Aydin, Turkey.

- Vladimir Levin, Husnu Yenigun, and Kemal Inan, "An Implementation of SDL 92 Communication Semantics", in Proceedings of the 10th International Symposium on Computer and Information Sciences (ISCIS X), October 1995, pp. 457-464, Kusadasi, Aydin, Turkey.

- Vladimir Levin, Alexander Sulimov, Husnu Yenigun, and Kemal Inan, "Preliminary Concepts for a C++ Animator Design for SDL 92", in "Specification, Verification and Net Models of Concurrent Systems", eds. V. A. Nepomniaschy, Siberian Division of the Russian Academy of Sciences, 1994.

- Husnu Yenigun, Esfandiar Haghverdi, Semih Bilgen, and Kemal Inan, "A Recursive Process Algebra for Queues", in Proceedings of the Sixth International Conference on Formal Description Techniques (FORTE'93), October 1993, Boston, USA.