

Curriculum Vitae of Prof. Dr.
Klaus Werner Schmidt



Personal Information:

Date of birth 13.08.1976 in Fürth/Bavaria
Marital status Married, one daughter
Citizenship German, Turkish
E-mail schmidt@metu.edu.tr

Education:

Jul. 2005 Ph.D in Engineering Sciences at the Technical Faculty of the University of Erlangen-Nuremberg
Ph.D Thesis Title: "Hierarchical and Decentralized Control of Discrete Event Systems: Theory and Application"
Final Grade: "with highest honors"
Mar. 2002 Graduate diploma in Electrical, Electronic and Communication Engineering (equivalent to Masters)
Diploma Thesis Title: "Synthesis of State Feedback for Linear Discrete Systems over $GF(2)$ using the Polynomial Matrix Method"
Final grade: 1.0 (4.0 GPA with highest honors)
Nov. 1999 Undergraduate diploma in Electrical, Electronic and Communication Engineering
Final grade: 1.0 (equivalent to 4.0 GPA)
Nov. 1997 – Mar. 2002 University Education in Electrical, Electronic and Communication Engineering at the University of Erlangen-Nuremberg
Jul. 1996 – Apr. 1997 Military Service
Jun. 1996 High-school graduation
Final grade: 1.0 (equivalent to 4.0 GPA)
Sep. 1987 – Jun. 1996 High-school education: Schillergymnasium in Hof

Foreign Languages: English, Turkish

Professional Experience:

Mar. 2019 Prof. at Middle East Technical University, Ankara
Sep. 2017 Associate Prof. at Middle East Technical University, Ankara
Sep. 2012 Associate Prof. at Cankaya University, Ankara
Dec. 2011 Habilitation degree (post-doctoral degree) at the Technical Faculty of the University of Erlangen-Nuremberg
Apr. 2010 – Aug. 2012 Assistant Prof. at Cankaya University, Ankara
Jul. 2003 – Jul. 2004 Research visit with Prof. Bruce Krogh at the Carnegie Mellon University Pittsburgh
Apr. 2002 – Apr. 2010 Researcher at the Chair of Automatic Control, University of Erlangen-Nuremberg

Teaching: (all courses are given in English)

- 2019 "Stability Theory of Dynamical Systems", Middle East Technical University,
"Discrete Event Systems: Modeling and Control", Middle East Technical University,
"Control System Design and Simulation", Middle East Technical University,
"Introduction to Logic Design", Middle East Technical University
- 2018 "Stability Theory of Dynamical Systems", Middle East Technical University,
"Discrete Event Systems: Modeling and Control", Middle East Technical University,
"Control System Design and Simulation", Middle East Technical University,
"Graduate Seminars", Middle East Technical University
"Seminar", Middle East Technical University
- 2017 "Systems and Control", Middle East Technical University,
"Stability Analysis of Dynamical Systems", Middle East Technical University
"Mechatronics Engineering Orientation", Çankaya University
"Automatic Control", Çankaya University
"Microprocessor I", Çankaya University
- 2016 "Control System Design", Çankaya University,
"Mechatronics Engineering Orientation", Çankaya University
"Automatic Control", Çankaya University
"Robust Control", Çankaya University
- 2015 "Mechatronics Engineering Orientation", Çankaya University
"Control System Design", Çankaya University,
"Automatic Control", Çankaya University
"Digital Control", Çankaya University
"Nonlinear Systems and Control", Çankaya University
- 2014 "Mechatronics Engineering Orientation", Çankaya University
"Automatic Control", Çankaya University
"Control System Design", Çankaya University,
"Digital Control", Çankaya University
"Supervisory Control for Discrete Event Systems", Çankaya University
"Nonlinear Systems and Control", Çankaya University
- 2013 "Mechatronics Engineering Orientation", Çankaya University
"Automatic Control", Çankaya University
"Control System Design", Çankaya University,
"Digital Control", Çankaya University
"Advanced Topics in Supervisory Control for Discrete Event Systems",
Çankaya University
"Robust Control", Çankaya University
- 2012 "Mechatronics Engineering Orientation", Çankaya University
"Control System Design", Çankaya University,
"Digital Control", Çankaya University
"Automatic Control", Çankaya University
"Supervisory Control for Discrete Event Systems", Çankaya University
"Robust Control", Çankaya University
- 2011 "Nonlinear Systems and Control", Çankaya University
"Control System Design", Çankaya University,
"Digital Control", Çankaya University
"Automatic Control", Çankaya University
"Supervisory Control for Discrete Event Systems", Çankaya University
- 2010 "Control System Design", Çankaya University
"Nonlinear Systems and Control", Çankaya University
- 2006 – 2009 "Robust Control", University of Erlangen-Nuremberg

Professional Services:

Committees	Member of the Program Committee of the Workshop on Discrete Event Systems 2008, 2010, 2012, 2014, 2016, 2018 the IEEE Conference on Automation Science and Engineering 2009, the Workshop on Dependable Control of Discrete Systems 2011, 2013, 2015 and the IEEE Conference on Emerging Technologies & Factory Automation 2013, 2015 Organizing Committee of the Workshop on Discrete Event Systems 2010 in Berlin, Germany IFAC Technical Committee 1.3 on Discrete Event and Hybrid Systems Associate Editor for the IFAC World Congress 2017 (representing the IFAC Technical Committee 1.3 on Discrete Event and Hybrid Systems)
Reviewer Activities	IEEE Trans. on Automatic Control, Automatica, IEEE Trans. Automation Science and Engineering, Int. Journal of Control, IEEE Trans. on Control Systems Technology, IEEE Trans. on Vehicular Technology, IEEE Trans. on Industrial Electronics, IEEE Trans. on Industrial Informatics, IEEE Trans. on Systems, Man and Cybernetics, IEEE Trans. on Fuzzy Systems, IEEE Transactions on Engineering Management, Systems & Control Letters, IEEE Trans. on Computer-Aided Design of Integrated Circuits and Systems, IEEE Access, ACM Trans. on Embedded Computing Systems, Discrete Event Dynamic Systems: Theory and Applications, Fuzzy Sets & Systems, Applied Mathematical Modeling, Microprocessors and Microsystems, Journal of Automobile Engineering, Turkish Journal of Electrical Engineering & Computer Sciences, KSII Transactions on Internet and Information Systems, Mathematical and Computer Modeling of Dynamical Systems, Int. Journal of Control, Automation and Systems, Journal of Computational and Applied Mathematics, Journal of Control Science and Engineering, Mathematical Problems in Engineering, Workshop on Discrete Event Systems, Conf. on Decision and Control, American Control Conf. European Control Conf. Mediterranean Conf. on Control and Automation, Workshop on Dependable Control of Discrete Systems, Conf. on Emerging Technologies & Factory Automation, Conf. on Analysis and Design of Hybrid Systems, Int. Symposium on Computer-Aided Control Systems Design, Int. Conf. on Control & Automation, Int. Conf. on Control Applications, Hybrid Systems: Computation and Control, IFAC World Congress, IFAC Symposium on Advances in Automotive Control, Workshop on Distributed Estimation and Control in Networked Systems, Int. Conf. on Concurrency Theory, Int. Conf. on Systems
Editor-in-Chief	Çankaya University Journal of Science and Engineering (2014–2017)
Editor	Proceedings of the 7th Engineering and Technology Symposium, 2014
Assoc. Editor	Discrete Event Dynamic Systems: Theory and Applications (2018–) Turkish Journal of Electrical Engineering and Computer Sciences (2018–)

Awards:

2007, 2012	Outstanding reviewer for the IEEE Trans. on Automatic Control
Nov. 2006	Best Ph.D Thesis award in Electrical, Electronic and Communication Engineering from the University of Erlangen-Nuremberg
Jul. 2002	Award for the best diploma thesis in Electrical, Electronic and Communication Engineering at the University of Erlangen-Nuremberg by the German Association of Electrical Engineers (VDE)
2000 – 2002	Scholarship by the German National Merit Foundation
Jun. 1996	Scholarship awarded by the Bavarian State to cover the expenses during the university education
1995 – 1996	Awards in the German Mathematics Competition in 1995 and 1996

Publications

Books & Book Chapters:

- [B1] Schmidt, K., *Hierarchical and Decentralized Control of Discrete Event Systems - Theory and Application*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, URN: urn:nbn:de:bvb:29-opus-2072, URL: <http://www.opus.ub.uni-erlangen.de/opus/volltexte/2005/207/>, 2005.
- [B2] Delgado-Eckert, E., Reger, J., Schmidt, K.: *Discrete Time Systems with Event-Based Dynamics: Recent Developments in Analysis and Synthesis Methods*. Mario Alberto Jordán (Ed.), *Discrete Time Systems*, InTech, pp. 447-476, 2011

International Journal Articles:

- [A1] Schmidt, K.W., Hazır, Ö., *A Data Envelopment Analysis Method for Finding Robust and Cost-Efficient Schedules in Multimode Projects*, *IEEE Transactions on Engineering Management* (in press), 2020. (SCI)
- [A2] Schmidt, K.W., Hazır, Ö., *Formulation and Solution of an Optimal Control Problem for Industrial Project Control*, *Annals of Operations Research*, vol. 280, pp. 337350, 2019. (SCI)
- [A3] Al-Jhayyish, A. M. H., Schmidt, K.W., *Feedforward Strategies for Cooperative Adaptive Cruise Control in Heterogeneous Vehicle Strings*, *IEEE Transactions on Intelligent Transportation Systems*, vol. 19, no. 1, pp. 113-122, 2018. (SCI)
- [A4] Sağlam, H.B., Schmidt, K. W., *Outputs bounds for linear systems with repeated input signals: existence, computation and application to vehicle platooning*, *Turkish Journal of Electrical Engineering & Computer Sciences*, vol. 26, pp. 283-293, 2018. (SCI-E)
- [A5] Schmidt, K. W., *Reconfigurability of Behavioral Specifications for Manufacturing Systems*, *International Journal of Control*, vol. 90, no. 12, pp. 2605-2617, 2017. (SCI)
- [A6] Kartal, Y. B., Schmidt, E. G., Schmidt, K. W., *Modeling Distributed Real-time Systems in TIOA and UPPAAL*, *ACM Transactions on Embedded Computing Systems*, vol. 16, no. 1, 2016. (SCI-E)
- [A7] Schmidt, K. W., Alkan, B., Schmidt, E. G., Karani, D. C., Karakaya, U., *Controller area network with priority queues and FIFO queues: improved schedulability analysis and message set extension*, *International Journal of Vehicle Design*, vol. 71, no. 1/2/3/4, 2016. (SCI-E)
- [A8] Schmidt, K. W., *Optimal Supervisory Control Of Discrete Event Systems: Cyclicity And Interleaving Of Tasks*, *SIAM Journal on Control and Optimization*, vol. 53, no. 3, pp. 1425–1439, 2015. (SCI)
- [A9] Nooruldeen, A., Schmidt, K. W., *State Attraction under Language Specification for the Reconfiguration of Discrete Event Systems*, *IEEE Transactions on Automatic Control*, vol. 60, no. 6, pp. 1630–1634, 2015. (SCI)
- [A10] Schmidt, K. W., *Computation of Supervisors for Reconfigurable Machine Tools*, *Discrete Event Dynamic Systems: Theory and Applications*, vol. 25, no. 1-2, pp 125-158, 2015. (SCI)
- [A11] Schmidt, K. W., Breindl, C., *A Framework for State Attraction of Discrete Event Systems under Partial Observation*, *Information Sciences*, vol. 281, no. 10, pp. 265-280, 2014 (SCI)
- [A12] Schmidt, K. W., *Robust Priority Assignments for Extending Existing Controller Area Network Applications*, *IEEE Transactions on Industrial Informatics*, vol. 10, no. 1, pp. 578 - 585, 2014. (SCI-E)

- [A13] Schmidt, K. W., *Verification of Modular Diagnosability With Local Specifications for Discrete-Event Systems*, IEEE Transactions on Systems, Man and Cybernetics: Systems, vol. 43, no. 5, pp. 1130–1140, 2013. (SCI)
- [A14] Hazır, Ö., Schmidt, K. W., *An Integrated Scheduling and Control Model for Multi-Mode Projects*, Flexible Services and Manufacturing, vol. 25, no. 1–2, pp. 230–254, 2013. (SCI-E)
- [A15] Schmidt, K. W., Cury, J.E.R., *Efficient Abstractions for the Supervisory Control of Modular Discrete Event Systems*, IEEE Transactions on Automatic Control, vol. 57, no. 12, 2012. (SCI)
- [A16] Schmidt, K. W., Schmidt, E.G., *Distributed Real-time Protocols for Industrial Control Systems: Framework and Examples*, IEEE Transactions on Parallel and Distributed Systems, vol. 23, no. 10, pp. 1856–1866, 2012. (SCI)
- [A17] Schmidt, K. W., Boutalis, Y., *Fuzzy Discrete Event Systems for Multi-objective Control: Framework and Application to Mobile Robot Navigation*, IEEE Transactions on Fuzzy Systems, vol. 20, no. 5, pp. 910–922, 2012. (SCI)
- [A18] Schmidt, K., Breindl, Ch., *Maximally Permissive Hierarchical Control of Decentralized Discrete Event Systems*, IEEE Transactions on Automatic Control, vol. 56, no. 5, 2011. (SCI)
- [A19] Schmidt, K.: *Abstraction-based Verification of Codiagnosability for Discrete Event Systems*, Automatica, vol. 46, no. 9, pp. 1489-1494, 2010. (SCI)
- [A20] Schmidt, K.: *Abstraction-based failure diagnosis for discrete event systems*, Systems & Control Letters, vol. 59, pp. 42-47, January 2010. (SCI)
- [A21] Schmidt, K., Schmidt, E.G., *Message Scheduling for the FlexRay Protocol: The Static Segment*, IEEE Transactions on Vehicular Technology, vol. 58, no. 5, pp. 2170-2179, 2009. (SCI)
- [A22] Schmidt, E.G., Schmidt, K., *Message Scheduling for the FlexRay Protocol: The Dynamic Segment*, IEEE Transactions on Vehicular Technology, vol. 58, no. 5, pp. 2160-2169, 2009. (SCI)
- [A23] Schmidt, K., Moor, Th., Perk, S., *Nonblocking Hierarchical Control of Decentralized Discrete Event Systems*, IEEE Transactions on Automatic Control, vol. 53, no. 10, pp. 2252-2265, November 2008. (SCI)
- [A24] Schmidt, K., Schmidt, E.G., *Systematic Message Schedule Construction for Time-Triggered CAN*, IEEE Transactions on Vehicular Technology, Special Issue on Vehicular Communication Networks, Volume 56, Issue 6, Part 1, pp. 3431-3441, 2007. (SCI)
- [A25] Reger, J., Schmidt, K., *A Finite Field Framework for Modeling, Analysis and Control of Finite State Automata*, Mathematical and Computer Modeling of Dynamical Systems (MCMDS), vol. 10, Issue 3-4, pp 253-285, Taylor & Francis, 2004. (SCI-E)
- [A26] Reger, J., Schmidt, K., *Modeling and Analyzing Finite State Automata in the Finite Field $GF(2)$* , Mathematics and Computers in Simulation (MATCOM), vol 66, Issue 2-3, pp 193-206, Elsevier Science, 2004. (SCI-E)

National Journal Articles:

- [A27] Nooruldeen, A., Schmidt, K. W., *Order-preserving Models for the Supervisory Control of Flexible Manufacturing Systems*, Journal on Science and Engineering, vol. 16, no. 2, pp. 70–86, 2010.
- [A28] Al-Dahhan, M. R. H. Schmidt, K. W., *Safe and Efficient Path Planning for Omnidirectional Robots using an Inflated Voronoi Boundary*, Journal on Science and Engineering, vol. 16, no. 2, pp. 46–69, 2019.
- [A29] Ali, A. H. M. Schmidt, K. W., *Clothoid-based Lane Change Trajectory Computation for Self-Driving Vehicles*, Journal on Science and Engineering, vol. 14, no. 2, 2017.
- [A30] Bingöl, H., Çankaya, E., Schmidt, K. W., *String Stable Cooperative Adaptive Cruise Control Under Actuator Saturation*, Pamukkale University Journal of Engineering Sciences, 2016.
- [A31] Sülek, A. N., Afşar, K. U., Schmidt, K. W., *Yeniden Yarılandırılabilir Üretim Sistemleri için Kontrolcü Tasarım*, Journal on Science and Engineering, vol. 10, no. 1, pp. 1–16, 2013.
- [A32] Perk, S., Moor, Th., Schmidt, K.: *Regelungstheorie für ereignisdiskrete Systeme*, 4th edition, vol. 52, no. 3, pp. 54-62, March, 2010. (SCI-E)

Refereed International Conference Articles:

- [B1] Akpınar, M., Schmidt, K. W., Schmidt, E. G., *Improved clock synchronization algorithms for the Controller Area Network (CAN)*, International Conference on Computer Communications and Networks, Valencia, Spain, 2019.
- [B2] Ekici, N. U., Schmidt, K. W., Yazar, A., Schmidt, E. G., *ACCLOUD-MAN Power Efficient Resource Allocation for Heterogeneous Clouds*, International Conference on Computer Communications and Networks, Valencia, Spain, 2019.
- [B3] Batur, A., Schmidt, E.G., Schmidt, K.W., *Offset Computation of Response Time Distributions for Messages on the Controller Area Network*, IEEE Symposium on Industrial Embedded Systems, Graz, Austria, 2018.
- [B4] Schmidt, K.W., *Cooperative Adaptive Cruise Control for Vehicle Following During Lane Changes*, IFAC World Congress, Toulouse, France, 2017.
- [B5] Moor, Th., Schmidt, K.W., *The Controllability Prefix for Supervisory Control under Partial Observation with an Application to Fault-Tolerant Control*, IFAC World Congress, Toulouse, France, 2017.
- [B6] Afsin, M.E., Schmidt, K.W., Schmidt, E.G, *C3: Configurable CAN FD Controller: Architecture, Design and Hardware Implementation*, IEEE Symposium on Industrial Embedded Systems, Toulouse, France, 2017.
- [B7] Batur, A., Schmidt, E.G., Schmidt, K.W., *Offset Assignment on Controller Area Network: Improved Algorithms and Computational Evaluation*, IEEE Symposium on Industrial Embedded Systems, Toulouse, France, 2017.
- [B8] Atagoziyev, M., Schmidt, K. W., Schmidt, E. G., *Lane Change Scheduling for Autonomous Vehicles*, IFAC Symposium on Control in Transportation Systems, Istanbul, Turkey, 2016.
- [B9] Acar, A.N., Schmidt, K. W., *Discrete Event Supervisor Design and Application for Manufacturing Systems with Arbitrary Faults and Repair*, IEEE International Conference on Automation Science and Engineering, Gothenburg, Sweden, 2015.

- [B10] Moor, T., Schmidt, K. W., *Fault-Tolerant Control of Discrete-Event Systems with Lower-Bound Specifications*, Workshop on Dependable Control of Discrete Systems, Cancun, Mexico, 2015.
- [B11] Sülek, A.N., Schmidt, K. W., *Computation of Supervisors for Fault-Recovery and Repair for Discrete Event Systems*, Workshop on Discrete Event Systems, Paris, France, 2014.
- [B12] Eryilmaz, U., Hazir, Ö., Schmidt, K. W., *A Multi-Criteria Approach for Ranking Schedules for Multi-Mode Projects*, International Conference on Project Management and Scheduling, Munich, Germany, 2014.
- [B13] Hazir, Ö., Schmidt, K. W., Eryilmaz, U., *An Optimization Model To Coordinate Scheduling and Controlling in Projects: Case with Instantaneous Control Constraints*, OPT-i: An International Conference on Engineering and Applied Sciences Optimization, Kos, Greece, 2014
- [B14] Schmidt, K. W., *Optimal configuration changes for reconfigurable manufacturing systems*, IEEE Conference on Decision and Control, Florence, Italy, 2013.
- [B15] Sülek, A. N., Schmidt, K. W., *Computation of Fault-Tolerant Supervisors for Discrete Event Systems*, Workshop on Dependable Control of Discrete Systems, York, England, 2013.
- [B16] Hendi, H. M., Kırık, M. S., Schmidt, K. W., *Abstraction-based Supervisory Control for Reconfigurable Manufacturing Systems*, Workshop on Dependable Control of Discrete Systems, York, England, 2013.
- [B17] Schmidt, K. W., *Computation of Supervisors for Reconfigurable Machine Tools*, Workshop on Discrete Event Systems, Guadalajara, Mexico, 2012.
- [B18] Boutalis, Y., Moor, T., Schmidt, K.W., *Fuzzy Hybrid Systems Modeling with application in Decision Making and Control*, IEEE Intelligent Systems, Sofia, Bulgaria, 2012.
- [B19] Boutin, O., Komenda, J., Masopust, T., Schmidt, K., van Schuppen, J.H., *Hierarchical Control with Partial Observations: Sufficient Conditions*, IEEE Conference on Decision and Control, Orlando. USA, 2011.
- [B20] Moor, T., Schmidt, K., Wittmann, T., *Abstraction-Based Control for Not Necessarily Closed Behaviours*, IFAC World Congress, Milano, Italy, 2011.
- [B21] Schmidt, K., *Computation of Projections for the Abstraction-based Diagnosability Verification*, Workshop on Discrete Event Systems, Berlin, Germany, 2010.
- [B22] Schmidt, K., Queiroz, M.H., Cury, J.E.R., *Hierarchical Multitasking Control of Discrete Event Systems: Computation of Projections and Maximal Permissiveness*, Workshop on Discrete Event Systems, Berlin, Germany, 2010.
- [B23] Moor, Th, Schmidt, K., Perk, S., *Applied Supervisory Control for a Flexible Manufacturing System*, Workshop on Discrete Event Systems, Berlin, Germany, 2010.
- [B24] Schmidt, K., Schmidt E.G., *A Longest-Path Problem for Evaluating the Worst-Case Packet Delay of Switched Ethernet*, Symposium on Industrial Embedded Systems, Trento, Italy, 2010.
- [B25] Schmidt, E.G., Alkan, M., Schmidt, K., Yürüklü, E., Karakaya, U., *Performance Evaluation of FlexRay/CAN Networks Interconnected by a Gateway*, Symposium on Industrial Embedded Systems, Trento, Italy, 2010.
- [B26] Schmidt, K., Schmidt, E.G., *Optimal Message Scheduling for the Static Segment of FlexRay*, IEEE Vehicular Technology Conference, Ottawa, Canada, 2010.

- [B27] Schmidt, K., Schmidt, E.G., *Schedulability Analysis and Message Schedule Computation for the Dynamic Segment of FlexRay*, IEEE Vehicular Technology Conference, Ottawa, Canada, 2010.
- [B28] Schmidt, K., Schmidt, E.G., Demirci, A., Yürüklü, E., Karakaya, U., *An Experimental Study of the FlexRay Dynamic Segment*, Advances in Automotive Control, Munich, Germany, 2010.
- [B29] Boutalis, Y., Schmidt, K., *Multi-objective Decision Making Using Fuzzy Discrete Event Systems: A Mobile Robot Example*, Mediterranean Conference on Control and Automation, Marrakech, Morocco, 2010.
- [B30] Tampakis, G., Schmidt, K., Boutalis, Y., *Mobile Robot Navigation based on Fuzzy Discrete Event Systems*, IFAC International Conference on Intelligent Control Systems and Signal Processing, 2009.
- [B31] Schmidt, K., Cury, J.E.R., *Redundant Tasks in Multitasking Control of Discrete Event Systems*, Workshop on Dependable Control of Discrete Event Systems, Italy, 2009.
- [B32] Schmidt, K., *Controller Aggregation for Distributed Discrete-Event Supervisors on a Shared-medium Network*, Workshop on Dependable Control of Discrete Event Systems, Italy, 2009.
- [B33] Schmidt, K., Schmidt, E.G., *Communication of Distributed Discrete-Event Supervisors on a Switched Network*, Workshop on Discrete Event Systems, Sweden, 2008.
- [B34] Schmidt, K., Breindl, C., *On Maximal Permissiveness of Hierarchical and Modular Supervisory Control Approaches for Discrete Event Systems*, Workshop on Discrete Event Systems, Sweden, 2008.
- [B35] Perk, S., Moor, Th., Schmidt, K., *Controller Synthesis for an I/O-Based Hierarchical System Architecture*, Workshop on Discrete Event Systems, Gothenburg, Sweden, 2008.
- [B36] Moor, Th., Schmidt, K., Perk, S., *libFAUDES – An Open Source C++ Library for Discrete Event Systems*, Workshop on Discrete Event Systems, Sweden, 2008.
- [B37] Schmidt, K., Boutalis, Y., *Computation of Supremal Controllable Sublanguages and Infimal Controllable Superlanguages for Fuzzy Discrete Event Systems*, Mediterranean Conference on Control and Automation, France, 2008.
- [B38] Schmidt, K., Schmidt, E.G., Zaddach, J., *Reliable and Safe Operation of Distributed Discrete-Event Controllers: A Networked Implementation with Real-time Guarantees*, IFAC World Congress, South Korea, 2008.
- [B39] Schmidt, K., Schmidt, E.G., Zaddach, J., *A Shared-Medium Communication Architecture for Distributed Discrete Event Systems*, Mediterranean Conference on Control and Automation, Greece, 2007.
- [B40] Schmidt, K., Schmidt, E.G., *Modeling and Networked Implementation of Distributed Discrete Event Dynamic Controllers*, 22nd European Conference on Operational Research, Czech Republic, 2007.
- [B41] Schmidt, K., de Queiroz, M.H., Cury, J.E.R., *Hierarchical and Decentralized Multitasking Control of Discrete Event Systems*, Conference on Decision and Control, USA, 2007.
- [B42] Schmidt, K., Moor, Th., *Marked-String Accepting Observers for the Hierarchical and Decentralized Control of Discrete Event Systems*, Workshop on Discrete Event Systems (WODES), USA, 2006.
- [B43] Schmidt, K., Marchand, H., Gaudin, B., *Modular and Decentralized Supervisory Control of Concurrent Discrete Event Systems Using Reduced System Models*, Workshop on Discrete Event Systems (WODES), USA, 2006.

- [B44] Perk, S., Moor, Th., Schmidt, K., *Hierarchical Discrete Event Systems with Inputs and Outputs*, Workshop on Discrete Event Systems (WODES), USA, 2006.
- [B45] Moor, Th., Schmidt, K., *Hierarchical Control from a Behavioral Perspective*, International Conference on Methods and Models in Automation and Robotics, Poland, 2005.
- [B46] Schmidt, K., Moor, Th., Perk, S., *A Hierarchical Architecture for Nonblocking Control of Decentralized Discrete Event Systems*, Mediterranean Conference on Control and Automation, Cyprus, 2005.
- [B47] Deutscher, J., Anritter, F., Schmidt, K., *Feedforward Control of Nonlinear Systems using Fictitious Inputs*, European Control Conference/Conference on Decision and Control, Spain, 2005.
- [B48] Schmidt, K., Moor, Th., Perk, S., *Nonblocking Hierarchical Control of Decentralized DES*, IFAC World Congress, Czech Republic, 2005.
- [B49] Shammass, E., Choset, H., Schmidt, K., *Natural Gait Generation Techniques for Multi-bodied Isolated Mechanical Systems*, International Conference on Robotics and Automation (ICRA), Spain, 2005.
- [B50] Schmidt, K., Kapinski, J., Krogh, B.H., *Control Input Synthesis for Hybrid Systems using Informed Search*, Conference on Computer Aided Control System Design, Taiwan, 2004.
- [B51] Kapinski, J., Krogh, B.H., Schmidt, K., *Reachability Analysis using Proximity Based Automata*, Workshop on Discrete Event Systems (WODES), France, 2004.
- [B52] Schmidt, K., Moor, Th., Reger, J., *Hierarchical Control for Structural Decentralized DES*, Workshop on Discrete Event Systems (WODES), France, 2004.
- [B53] Reger, J., Schmidt, K., *Aspects on Analysis and Synthesis of Linear Discrete Systems over the Finite Field $GF(q)$* , European Control Conference (ECC), England, 2003.
- [B54] Reger, J., Schmidt, K., *Modeling and Analyzing Finite State Automata in the Finite Field $GF(2)$* , IMACS Symposium on Mathematical Modeling, Austria. 2003.
- [B55] Schmidt, K., Reger, J., *Synthesis of State Feedback for Linear Automata in the Finite Field $GF(2)$* , IMACS Symposium on Mathematical Modeling, Austria, 2003.

Refereed National Conference Articles:

- [B56] Yeniaydin, Y., Schmidt, K.W., *Comparison of 2D LIDAR Data Segmentation Methods Based on Synthetic Data Generation*, International Conference & Exhibition on Digital Transformation & Smart Systems, Ankara, Turkey, 2019.
- [B57] Al-Dahhan, M. R. H., Schmidt, K.W., *Path Planning Based on Voronoi Diagram and PRM for Omnidirectional Mobile Robots*, International Conference & Exhibition on Digital Transformation & Smart Systems, Ankara, Turkey, 2019.
- [B58] Ekici, N. U., Yazar, A., Koltuk, F., Schmidt, K. W., Schmidt, E. G., *Evaluation of Resource Allocation Methods for Heterogeneous Clouds with Realistic Traces*, International Conference & Exhibition on Digital Transformation & Smart Systems, Ankara, Turkey, 2019.
- [B59] Güldiken, Ç., Schmidt, K. W., Schmidt, E. G., *Optimal Telegram Scheduling For The Periodic Phase Of MVB*, International Conference & Exhibition on Digital Transformation & Smart Systems, Ankara, Turkey, 2019.

- [B60] Ekici, N. U., Yazar, A., Koltuk, F., Schmidt, K. W., Schmidt, E. G., *ACCLOUD-MAN – Power Efficient Resource Allocation for Heterogeneous Clouds*, IEEE 27. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Sivas, Turkey, 2019.
- [B61] Yeniaydın, Y., Schmidt, K.W., *Sensor Fusion of a Camera and 2D LIDAR for Lane Detection*, IEEE 27. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Sivas, Turkey, 2019.
- [B62] Yeniaydın, Y., Schmidt, K.W., *Robust Lane Recognition Based on Arc Splines*, International Conference & Exhibition on Digital Transformation & Smart Systems, Ankara, Turkey, 2018.
- [B63] Batur, A., Schmidt E.G., Schmidt, K.W., *CAN Mesajları iin Tepki Zamanı Dağımlarının Elde Edilmesi-Evaluation of Response Time Distributions for Controller Area Network Messages*, IEEE 26. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Çeşme, Turkey, 2018.
- [B64] Saraçoğlu, K., Üleş, B., Schmidt, K.W., *A Lane Keeping System with a Weighted Preview Measurement*, IEEE 26. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Çeşme, Turkey, 2018.
- [B65] Yeniaydın, Y., Schmidt, K.W., *A Lane Detection Algorithm Based on Reliable Lane Markings*, IEEE 26. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Çeşme, Turkey, 2018.
- [B66] Çakmak, C., Schmidt, E.G., Schmidt, K.W., *Hızlı ve Optimal Bir FlexRay v3.0 Statik Bölüt Çizelgelemesi Yöntemi - A Fast and Optimal Method for Scheduling the Static Segment of FlexRay v3.0*, IEEE 25. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Antalya/Belek, Turkey, 2017.
- [B67] Afsin, M.E, Schmidt, K.W., Schmidt, E.G., *Ayarlanabilir Bir CAN FD Kontrolcusu: Mimari ve Gerekleştirim-A Configurable CAN FD Controller: Architecture and Implementation*, IEEE 25. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Antalya/Belek, Turkey, 2017.
- [B68] Batur, A., Schmidt, E.G., Schmidt, K.W., *CAN Ağları Ofset Çizelgelemesi İçin İyileştirilmiş Yük Dağılımı - Improved Load Distribution for Controller Area Network*, IEEE 25. Sinyal Isleme ve İletişim Uygulamaları Kurultayı, Antalya/Belek, Turkey, 2017.
- [B69] Bingöl, H., Çankaya, E., Schmidt, K. W., *String Stable Cooperative Adaptive Cruise Control under Actuator Saturation (in Turkish)*, National Conference of the Turkish National Committee of Automatic Control, Denizli, Turkey, 2015.
- [B70] Al-Jhayyish, A. M. H., Schmidt, K. W., *Cooperative Adaptive Cruise Control Design for Heterogeneous Vehicle Strings*, Engineering and Technology Symposium, Ankara, Turkey, 2015.
- [B71] Deaibil, I. B. A., Schmidt, K. W., *Performing Safe and Efficient Lane Changes in Dense Vehicle Traffic*, Engineering and Technology Symposium, Ankara, Turkey, 2015.
- [B72] Alkan, B. Schmidt, E. G., Schmidt, K. W., *AUTONET – An Automatic Scheduling Tool for In-Vehicle Networks*, OTEKON, Bursa, Turkey, 2014.
- [B73] Alkan, B. Schmidt, E. G., Schmidt, K. W., *Karayollarında Akıllı Ulaşım Sistemleri için Araç içi Haberleşme Ağları*, KAUS, Istanbul, Turkey, 2014.
- [B74] Schmidt, K. W., Hazir, Ö., Eryılmaz, U. *A Tabu Search Algorithm for Integrated Project Scheduling and Control*, Engineering and Technology Symposium, Ankara, Turkey, 2014.
- [B75] Kart, B. E., Schmidt, K. W., *Computation of Reduced Diagnosers for the Fault Diagnosis of Discrete Event Systems*, Engineering and Technology Symposium, Ankara, Turkey, 2014.

- [B76] Khalid, H. M., Schmidt, K. W., *Abstraction-Based Modeling and Control For Reconfigurable Machine Tools (RMT)*, Engineering and Technology Symposium, Ankara, Turkey, 2014.
- [B77] Kart, B. E., Schmidt, K. W., *Ayrık olaylı Sistemler için geliştirilmiş bir Tanılayıcı*, Mühendislik ve Teknoloji Sempozyumu, Ankara, Turkey, 2013.
- [B78] Schmidt, K. W., *Ayrık Olaylı Sistemlerde Arızadan Toparlanma için Gözetimli Kontrol*, IEEE 20. Sinyal İşleme ve İletişim Uygulamaları Kurultayı., Fethiye. Türkiye, 2012.
- [B79] Gözcü, A. K., Turan, U., Schmidt, E. G., Schmidt, K. W., *Dinamik Dağıtık Gerçek Zamanlı Endüstriyel İletişim Protokolü (D²-GEP) Gerçekleştirimi*, IEEE 20. Sinyal İşleme ve İletişim Uygulamaları Kurultayı., Fethiye. Türkiye, 2012.
- [B80] Kartal, Y. B., Schmidt, E. G., Schmidt, K. W., *Paylaşımlı Ethernet Üzerinde Çalışan Özgün Bir Gerçek-Zamanlı Haberleşme Protokolü İşçerçevesinin Doğrulanması*, IEEE 20. Sinyal İşleme ve İletişim Uygulamaları Kurultayı., Fethiye. Türkiye, 2012.
- [B81] Sülek, A. N., Afşar, K. U., Schmidt, K. W., *Yeniden Yapılandırılabilir Üretim Sistemleri için Kontrolcu Tasarımı*, Mühendislik ve Teknoloji Sempozyumu, Ankara, Turkey, 2012.
- [B82] Schmidt, K., Schmidt, E.G., *Echtzeimentplementierung verteilter ereignisdiskreter Steuerungen mittels Kommunikationsnetzwerken*, Entwurf komplexer Automatisierungssysteme (EKA), Germany, 2008.
- [B83] Schmidt, K.; E. G. Schmidt, *Message Scheduling for the Static Segment of the FlexRay Protocol*, Signal Processing, Communication and Applications Conference, Turkey, 2008.
- [B84] Schmidt, K.; E. G. Schmidt, *Shared Medium Communication for Distributed Discrete Event Control*, Signal Processing, Communication and Applications Conference, 2008.
- [B85] Anritter, F., Kühnlein, A., Schmidt, K., *Realisierungsnahe Simulation eines Fahrzeugsitzes mit semi-aktiver Dämpfung*, VDI-Berichte Nr. 1828, AUTOREG, 2004.

Research Cooperations

- Prof. Dr. Zhiwu Li and Dr. Jiafeng Zhang, School of Mechano-Electronic Engineering, Xidian University, Xian, China.
Supervisory control of reconfigurable manufacturing systems.
- Prof. Dr. Thomas Moor, Chair of Automatic Control, University of Erlangen-Nuremberg, Germany.
Fault-tolerant supervisory control of discrete event systems.
- Prof. Dr. Ece Güran Schmidt, Department of Electrical and Electronics Engineering, Middle East Technical University, Ankara, Turkey.
Modeling of the communication behavior of networked control systems.
Message scheduling for modern in-vehicle communication protocols.
- Prof. José Eduardo Ribeiro Cury, Depto de Automao e Sistemas Universidade Federal de Santa Catarina, Florianopolis, Brazil.
Multi-tasking supervisory control of discrete event systems.
- Prof. Yiannis Boutalis, Department of Electrical and Computer Engineering, Democritus University of Thrace, Greece.
Control of fuzzy discrete event systems.
- Prof. Jan van Schuppen, Centrum for Wiskunde & Informatica, Amsterdam, Netherlands.
Hierarchical control of discrete event systems under partial observation
- Dr. Öncü Hazır, Rennes School of Business, France.
Industrial project control

Talks

- 2019 *Advanced Topics in Supervisory Control for Discrete Event Systems based on Automata*, Xidian University, Xi'an, China, 2019.
Supervisory Control Design for Reconfiguration in Discrete Event Systems based on Automata, Xidian University, Xi'an, China, 2019.
- 2018 *Longitudinal and Lateral Control Methods towards Cooperative and Coordinated Autonomous Driving*, OKAN University, Istanbul, Turkey, 2018.
- 2017 *Cooperative Adaptive Cruise Control for Vehicle Following During Lane Changes*, IFAC World Congress, Toulouse, France, 2017.
- 2016 *Lane Change Scheduling for Autonomous Vehicles*, IFAC Symposium on Control in Transportation Systems, Istanbul, Turkey.
- 2015 *Recent Results on the Supervisory Control of Reconfigurable Manufacturing Systems*, Department of Signals and Systems, Chalmers University, Göteborg, Sweden.
- 2014 *Computation of Supervisors for Fault-Recovery and Repair for Discrete Event Systems*, Workshop on Discrete Event Systems, Paris, France.
- 2013 *Optimal configuration changes for reconfigurable manufacturing systems*, IEEE Conference on Decision and Control, Florence, Italy.
- 2012 *Supervisor Synthesis for Reconfigurable Machine Tools*, Workshop on Discrete Event Systems, Guadalajara, Mexico.
Ayrik Olayli Sistemlerde Hatadan Toparlanma İin Gözetimli Kontrol, IEEE Sinyal İşleme ve İletişim Uygulamaları, Fethiye, Turkey.
- 2011 *Abstraction-Based Control for Not Necessarily Closed Behaviours*, IFAC World Congress, Milano, Italy
- 2010 *Abstraction-based Techniques for Discrete Event Systems: Hierarchical Control and Diagnosability Verification*, Centrum Wiskunde & Informatica, Amsterdam, Netherlands
Computation of Projections for the Abstraction-based Diagnosability Verification, Workshop on Discrete Event Systems, Berlin, Germany
Hierarchical Multitasking Control of Discrete Event Systems: Computation of Projections and Maximal Permissiveness, Workshop on Discrete Event Systems, Berlin, Germany
A Longest-Path Problem for Evaluating the Worst-Case Packet Delay of Switched Ethernet, Symposium on Industrial Embedded Systems, Trento, Italy
Optimal Message Scheduling for the Static Segment of FlexRay, IEEE Vehicular Technology Conference, Ottawa, Canada
Schedulability Analysis and Message Schedule Computation for the Dynamic Segment of FlexRa, IEEE Vehicular Technology Conference, Ottawa, Canada
An Experimental Study of the FlexRay Dynamic Segment, Advances in Automotive Control, Munich, Germany

- 2008 *Modeling and Networked Realization of Distributed Discrete Event Controllers*, Fachgebiet Regelungssysteme, Technische Universität Berlin, Germany.
Echtzeitimplementierung verteilter ereignisdiskreter Steuerungen mittels Kommunikationsnetzwerken, Entwurf komplexer Automatisierungssysteme (EKA), Magdeburg, Germany.
Reliable and Safe Operation of Distributed Discrete-Event Controllers: A Networked Implementation with Real-time Guarantees, IFAC World Congress, Seoul, South Korea.
Communication of Distributed Discrete-Event Supervisors on a Switched Network, Workshop on Discrete Event Systems, Gothenburg, Sweden.
On Maximal Permissiveness of Hierarchical and Modular Supervisory Control Approaches for Discrete Event Systems, Workshop on Discrete Event Systems, Gothenburg, Sweden.
- 2007 *Modeling and Networked Implementation of Distributed Discrete Event Dynamic Controllers*, 22nd European Conference on Operational Research, Prague, Czech Republic.
A Shared-Medium Communication Architecture for Distributed Discrete Event Systems, Mediterranean Conference on Control and Automation, Athens, Greece.
Hierarchical and Decentralized Multitasking Control of Discrete Event Systems, Conference on Decision and Control, New Orleans, USA.
- 2006 *Modular and Decentralized Supervisory Control of Concurrent Discrete Event Systems Using Reduced System Models*, Workshop on Discrete Event Systems, Ann Arbor, USA.
Marked-String Accepting Observers for the Hierarchical and Decentralized Control of Discrete Event Systems, Workshop on Discrete Event Systems, Ann Arbor, USA.
Distributed Discrete Event Controllers: Dynamical Modeling, Simulation and Scheduling, Institute of Applied Mathematics, Middle East Technical University, Ankara, Turkey.
- 2005 *Nichtblockierende hierarchische Regelung dezentraler ereignisdiskreter Systeme*, 39. Regelungstechnisches Kolloquium, Boppard, Germany.
Nonblocking Hierarchical Control for Decentralized Systems, IFAC World Congress, Prague, Czech Republic.
A Hierarchical Architecture for Nonblocking Control of Decentralized Discrete Event Systems, Mediterranean Conference on Control and Automation, Limassol, Cyprus.
- 2004 *Tools for Reduction of Mechanical Systems*, Foundation of Robotics Seminar, Robotics Institute, Carnegie Mellon University, Pittsburgh, USA.
Hierarchical Control for Structural Decentralized DES, Workshop on Discrete Event Systems (WODES), Reims, France.
- 2003 *Synthesis of State Feedback for Linear Automata in the Finite Field $GF(2)$* , IMACS Symposium on Mathematical Modeling (MATHMOD), Wien, Österreich.
Aspects on Analysis and Synthesis of Linear Discrete Systems over the Finite Field $GF(q)$, European Control Conference, Cambridge, England.
High-Level Abstraction of Concurrent Finite Automata for the Purpose of Hierarchical Control, SVC-Seminar, Department of Computer Science, Carnegie Mellon University, Pittsburgh.
An Extension of Flatness-Based Control for Nonlinear Systems to Non-Flat Systems by using Fictitious Control Inputs, Foundation of Robotics Seminar, Robotics Institute, Carnegie Mellon University, Pittsburgh, USA.

Funding

Completed Projects

- C1 TÜBİTAK 1001 Project (Researcher), *Development of a Framework for Decision Support in Industrial Projects: Scheduling, Control and Software Support*, (2013 – 2016), Project number: 113K245, budget: 110 000 TL.
- C2 TEYDEB 1511 Project with TOFAŞ A.Ş. (Consultant), *Development of a software tool for in-vehicle network scheduling algorithms* (2013 – 2015), Project number: 1120210, budget: 506 072.14 TL.
- C3 TÜBİTAK 3501 "Career Project" (Project Manager), *A Formal Framework and Continuous Workflow for the Controller Design, Failure Diagnosis and Failure Recovery of Reconfigurable Manufacturing Systems* (2011 – 2014), Project number: 110E185, budget: 222 366 TL.
- C4 German Research Foundation (DFG), Research project (with Prof. Dr.-Ing. Th. Moor) "Model-based Design of Hierarchical Control Systems" 2006–2009, Project number: MO 1697/2-1, budget: 428 817.47 TL.
- C5 Industrial project with Siemens AG (Consultant), "Physical Modeling and Control Optimization 160MLC" 2006, budget: 15 404.51 TL.
- C6 Participation in the research project "Improved vibration isolation for commercial vehicle seats" of the Bavarian Research Foundation (Bayerische Forschungstiftung) from April 2002 until July 2003.
- C7 TÜBİTAK 1001 Project (Principal Investigator), *An Intelligent Transportation Systems Framework for Traffic Safety and Traffic Efficiency: Coordinated Longitudinal and Lateral Maneuvers of Heterogeneous Autonomous Vehicles on Multi-lane Highways*, (2015 – 2018), Project number: 115E372, budget: 239 903 TL.
- C8 BAP Projesi (Yönetici), *Şerit Tespiti ve Şerit Takibi: Algoritma Geliştirme, Prototip Uygulaması ve Değerlendirme*, (2018), Proje kodu: GAP-301-2018-2740, bütçe: 6.000 TL.
- C9 Industrial Project (Manager), *Araç Arka Lambalarının Gömülü Yazılımının Test Edilmesi için Yazılım ve Donanım Geliştirilmesi Ar-Ge Projesi*, (2019), bütçe: 90.000 TL.

Ongoing Projects

- C10 TÜBİTAK 1001 Project (Principal Investigator), *CANDS: A Novel Framework for the Deterministic, Real-Time, Reliable and Cost-Efficient In-Vehicle Communication of Automotive Cyber Physical Systems*, (2019 – 2022), Project number: 119E277, budget: 373 910 TL.

Graduate Theses

Completed PhD Theses:

- P1 H. B. Sağlam, *Ph.D Thesis*, Department of Electronic and Communication Engineering, Çankaya University, Ankara, *Analysis of Lane Changes for Vehicle Strings on Highways: String Stability, Driving Safety and Comfort*, 2017.
- P2 A. H. M. Ali, *Ph.D Thesis*, Department of Electronic and Communication Engineering, Çankaya University, Ankara, *Optimal Control Problems for Safe and Efficient Lane Changes of Self-Driving Vehicles*, 2017.
- P3 S. Perk, *Ph.D Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Model-based design of hierarchical control systems*, 2009, co-advised with Prof. Dr. Thomas Moor, Universität Erlangen-Nürnberg.

Completed Master's Theses (Supervised):

- M1 Mustafa Çağlar Güldiken, *M. S. Thesis*, *Telegram Scheduling for the Periodic Phase of the Multifunction Vehicle Bus*, Middle East Technical University (Co-advised with Prof. Dr. Şenan Ece Schmidt, 2019.
- M2 Serkan Yalçın, *M. S. Thesis*, *Clock Synchronization Algorithms on a Software-defined CAN Controller: Implementation and Evaluation*, Middle East Technical University (Co-advised with Prof. Dr. Şenan Ece Schmidt, 2019.
- M3 Ahmet Batur, *M. S. Thesis*, *Controller Area Network with Offset Scheduling: Improved Offset Assignment Algorithms And Computation Of Response Time Distributions*, Middle East Technical University (Co-advised with Prof. Dr. Şenan Ece Schmidt, 2018.
- M4 Hilal Bingöl, *M. S. Thesis*, *String Stability Analysis of Cooperative Adaptive Cruise Control (CACC) With Actuator Saturation*, Çankaya University, 2017.
- M5 Erkam Çankaya, *M. S. Thesis*, *Trajectory Generation for Open/Close Gap Maneuvers in Vehicle Strings*, Çankaya University, 2017.
- M6 Ahmed M. H. Al-Jhayyish, *M. S. Thesis*, *Design and Evaluation of Cooperative Adaptive Cruise Control (CACC) for the Improvement of Highway Traffic Flow*, Çankaya University, 2016.
- M7 Ayse Nur Acar, *M. S. Thesis*, *Fault Recovery for Discrete Event Systems*, Çankaya University, 2015.
- M8 Inas Deaibil, *M. S. Thesis*, *Platooning of Vehicles in Intelligent Transportation Systems*, Çankaya University, 2015.
- M9 H. Soodi, *M. S. Thesis*, *Design of a Photovoltaic Power Converter for Driving and Controlling AC Motors*, Çankaya University, 2014.
- M10 S. N. Mahmood, *M. S. Thesis*, *Applications of Fault-tolerant Supervisory Control for Discrete Event Systems*, Çankaya University, 2014.
- M11 H. M. Khalid, *M. S. Thesis*, *Applications of Reconfigurable Manufacturing Systems: A Laboratory Case Study*, Çankaya University, 2014.
- M12 O. Şimşek, *M. S. Thesis*, *Design and Implementation of a 1kW Single Phase Grid Tied Inverter*, Çankaya University, 2013.
- M13 H. Ö. Öz, *M. S. Thesis*, *Driver Design for Asynchronous Motors: Digital Signal Processing, Control and Data Acquisition*, Çankaya University, 2012.

- M14 F. Saber, *M. S. Thesis, Modeling Control and Simulation of a Drinking Water Treatment Plant*, Çankaya University, 2012.
- M15 A. Anwar, *M. S. Thesis, Development of a Water Tank Laboratory Experiment*, Çankaya University, 2012.
- M16 A. Nooruldeen, *M. S. Thesis, Supervisory Control for Reconfigurable Manufacturing Systems: Structural Changes and Re-usability of controllers*, Çankaya University, 2012.
- M17 A. Haseeb, *M. S. Thesis, Development of a DC-Motor Control Laboratory Experiment*, Çankaya University, 2012.
- M18 T. Barthel, *Diploma Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Failure diagnosis for hierarchical and decentralized discrete event systems*, 2009.
- M19 I. Petzoldt, *Diploma Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Aggregation of networked discrete event controllers: theoretical development and simulation study*, 2008.
- M20 J. Zaddach, *Diploma Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Communication models for networked discrete event controllers*, 2007.
- M21 C. Breindl, *Diploma Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Hierarchical control of discrete event systems: computation of abstractions and maximal permissiveness*, 2007.
- M22 B. Schlein, *Diploma Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Finite state automata as a programming language for the IEC 61131-3 norm*, 2006.
- M23 B. Opitz, *Master Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Methods of supervisory control: a software implementation*, 2006.
- M24 S. Perk, *Diploma Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Hierarchical design of discrete event controllers: an automated manufacturing system case study*, 2005.
- M25 S. Figgen, *Diploma Thesis*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Design, implementation and validation of supervisory control for an automated manufacturing system*, 2005.
- M26 T. Timm, *Diploma Thesis (in German)*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Application of nonlinear control methods for the vibration isolation of commercial vehicle seats*, 2003.
- M27 G. Ersoy, *Diploma Thesis (in German)*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Application and extension of decentralized supervisory control for discrete event systems*, 2003.
- M28 M. Seltsam, *Diploma Thesis (in German)*, Lehrstuhl für Regelungstechnik, Universität Erlangen-Nürnberg, *Development of a Hardware-in-the-Loop simulation environment for the study of semi-active dampers in commercial vehicle seats*, 2002.

Completed Master's Theses (Co-Supervised):

- M29 Mehmet Ertuğ Afşin, *M. S. Thesis, C³: Configurable CAN FD Controller: Design, Implementation and Evaluation*, co-advised with Prof. Dr. Şenan Ece Schmidt, Middle East Technical University, 2018.

- M30 Ö. Kızılay, *M. S. Thesis, Message Scheduling for the Static and Dynamic Segment of Flexray: Algorithms and Applications*, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University, 2016.
- M31 B. Alkan, *M. S. Thesis, Controller Area Network (CAN) Response Time Analysis and Scheduling For Advanced Topics: Offsets, FIFO Queues and Gateways*, 2015, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University.
- M32 G. Urul, *M. S. Thesis, A Frame Packing Method to Improve the Schedulability on CAN and CAN-FD*, 2015, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University.
- M33 R. Karav, *M. S. Thesis, Combined centralized and decentralized fault diagnosis for discrete event systems*, (co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University, 2014.
- M34 B. E. Kart, *M. S. Thesis, Diagnoser for discrete event systems: improved realization and examples*, 2014, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University.
- M35 A. Kaya, *M. S. Thesis, Implementation and evaluation of the Dynamic Distributed Real Time Industrial Protocol (D2RIP)*, 2013, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University.
- M36 Ö. B. Sezer, *M. S. Thesis, Implementation and evaluation of the dependability plane for the Dynamic Distributed Dependable Real Time Industrial Protocol (D3RIP)*, 2013, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University.
- M37 H. Erturğul, *M. S. Thesis, An FPGA implementation of two-step trajectory planning for automatic parking*, 2013, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University.
- M38 C. Öztürk, *M. S. Thesis, Software Tool Development for the Automated Configuration of FlexRay Networks for In-vehicle Communication*, 2013, co-advised with Assoc. Prof. Dr. Şenan Ece Schmidt, Middle East Technical University.
- M39 V. Çelik, *M. S. Thesis, Department of Electrical and Electronics Engineering, Middle East Technical University, Development of strategies for reducing the worst-case message response times on the controller area network*, 2012, co-advised with Associate Prof. Dr. Ece Güran Schmidt