

David M. Auslander
Professor of the Graduate School, Mechanical Engineering
University of California at Berkeley

Mechanical Engineering Department, University of California, Berkeley, CA 94720-1740, USA
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Employment

University of California at Berkeley, Associate Dean for Student Affairs and Research, College of Engineering, 1999 – 2005, Acting Dean, College of Engineering, 2002-03
University of California at Berkeley, Professor of the Graduate School: joined faculty in 1966 - present
Northern Research and Development Corp., Cambridge, MA: Senior Engineer, 1961-64

Education

BSME	The Cooper Union, 1961
SM	Massachusetts Institute of Technology, 1964
ScD	Massachusetts Institute of Technology, 1966

Areas of Research

Control system design and analysis, real time software methodology, mechatronics (mechanical system control), motion control, energy management systems, dynamic system modeling and simulation

Visiting Positions

University of Tokyo, Center for Advanced Studies of the National Polytechnic Institute (Mexico), Princeton University, University of Sydney, École Nationale Supérieure des Arts et Métier (Paris), École Polytechnique Federale de Lausanne

Teaching

Taught classes in mechatronics, real time software, feedback control systems; Developed mechatronics sequence (undergraduate and graduate courses in real time software, digital and analog electronics, mechanical system control); Co-Developed new introductory feedback control course; Developed measurement and instrumentation course; Authored and co-authored textbooks in these areas; Developed robotics-mechatronics course at Univ. of Calif., Merced. Not currently teaching.

Professional Activities

International Federation of Automatic Control (IFAC) 1996 Triennial Congress, Conf. Mgr.
ASME Dynamics Systems and Control Division, chair 1981, member of various committees
ASME Transactions, J. Dynamic Systems, Measurement and Control, Editor 1981-86

Consulting: legal consulting; co-founder and Senior Consultant of Berkeley Process Control, Inc., a developer of controllers for mechanical systems. Berkeley Process Control was acquired by Moog, Inc., in 2008; member, Board of Directors and consultant, XIO, Inc(2014-2021).

Honors

Louis Levy Award (best paper), Franklin Institute (twice)
Fellow of the American Society of Mechanical Engineers
Education Award, Dynamic Systems and Control Division, ASME
Education Award, American Automatic Control Council
Control Practice Award, Dynamic Systems and Control Division, ASME
Donald P.Eckman Award of the Instrumentation, Systems, and Automation Society (ISA)
Mechatronics and Embedded Systems and Applications (MESA), ASME/IEEE, Career Award

PUBLICATIONS

David M. Auslander
Mechanical Engineering Department
University of California at Berkeley

Books and Book Chapters

1. Y. Takahashi, M. Rabins, D. M. Auslander, *Control and Dynamic Systems*, Addison-Wesley Publishing Company, 800 pages, 1970. (Also translated into Japanese and Polish.)
2. D. M. Auslander, Y. Takahashi, M. Rabins, *Introducing Systems and Control*, McGraw-Hill, New York, 388 pages, 1974. (Also translated into Spanish.)
3. A. Al-Shaikh, D. M. Auslander, editors, *Case Studies in Computer Control*, ASME, 1978, 87 pages.
4. D. M. Auslander, P. Sagues, *Microprocessors for Measurement and Control*, Osborne/McGraw-Hill, 1981, 310 pages. (Also translated into Japanese and Chinese.)
5. I.D. Landau, M. Tomizuka, D. M. Auslander, editors, *Adaptive Systems in Control and Signal Processing 1983*, Pergamon Press, Oxford, 1984.
6. D.M. Auslander, C.H. Tham, *Real-Time Software for Control*, Prentice-Hall, Englewood Cliffs, NJ, 1990, 493 pages.
7. D.M. Auslander, C.H. Tham, "Real-Time Control Software for Manufacturing Systems", Chapter in: *Advances in Manufacturing and Automation Systems*, Academic Press, 1991.
8. A. Jana, D.M. Auslander, "Workcell Programming Language for Intelligent Manufacturing Systems," chapter 1 in *Design and Implementation of Intelligent Manufacturing Systems*, Edited by H. R. Parsaei, M. Jamshidi, Prentice-Hall, Upper Saddle River, NJ, 1995, pp 1-18.
9. D.M. Auslander, C.J. Kempf, *Mechatronics: Mechanical System Interfacing*, Prentice-Hall, Upper Saddle River, NJ, 1996, 242 pages.
10. D.M. Auslander, J.R. Ridgely, J.C. Jones, "Real-Time Software for Implementation of Feedback Control," chapter in: *The Control Handbook*, edited by William S. Levine, CRC Press and IEEE Press, pp 323-344, 1996.

11. D.M. Auslander, J. R. Ridgely, J. D. Ringgenberg, *Control Software for Mechanical Systems: Object Oriented Design in a Real-Time World*, Prentice-Hall, Upper Saddle River, NJ, 2002, 339 pages.
12. D.M. Auslander. "Digital Controllers," chapter in *Encyclopedia of Physical Science and Technology (Third Edition)*, Academic Press, 2003, pp 441–460.
13. D.M. Auslander, J-D Decotigne, "Network Fundamentals," chapter in *Handbook of Networked and Embedded Control Systems*, edited by D. Hristu-Varsakelis and W. S. Levine, Birkhauser, pp 197-223, 2005.

Journal and Conference Papers

1. D. B. Spalding, D. M. Auslander, and T. R. Sundaram, "The Calculation of Heat and Mass Transfer through the Turbulent Boundary Layer on a Flat Plate at High Mach Numbers, with and without Chemical Reaction," *Supersonic Flow, Chemical Processes and Radiative Transfer*, Pergamon Press, 211-276, 1964.
2. D. M. Auslander, "Distributed System Simulation with Bilateral Delay-Line Models," *Trans. ASME, J. of Basic Engineering*, 90, 195-200, 1968.
3. D. M. Auslander, "Simulation and Design of Fluidic Systems with Long Lines," ASME paper #68-WA/AUTO-12, 1968.
4. D. M. Auslander, and D. C. Sharma, "Study of Certain Clinical Disorders Related to the Biosynthesis and Regulation of Steroid Hormones by Computer Simulation," *Progress in Cybernetics, Gordon and Breach*, 467-490, 1970.
5. G. F. Oster, D. M. Auslander, "Generalized Circuits for Thermodynamic Systems," Proc. of the 1970 International Conference on Circuit and System Theory, Kyoto, Japan, 161-162, 1970.
6. Y. Takahashi, C. S. Chan, and D. M. Auslander, "Parameter Tuning of Linear DDC Algorithms," ASME paper #70-WA/AUT-16, 1970. Also published as: "Parametereinstellung bei linearen DDC-Algorithmen," *Regelungstechnik und Prozess-Datenverarbeitung*, 6, 237-244, 1971.
7. D. P. Garg, D. M. Auslander, and M. J. Rabins, "A Synthesis Technique for Nonlinear Control Systems Using a Frequency Domain Stability Criterion," *Trans. ASME, J. of Basic Engineering*, 92 348-354, 1970.
8. D. M. Auslander, "Distributed-Parameter Models for Continuous-Time Systems," Proc. of the 1970 Summer Computer Simulation Conference, Denver, Colorado, 242-251, 1970.

9. D. M. Auslander, "Evolutions in Automatic Control," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 93, 4-9, 1971.
10. R. W. Phillips, D. M. Auslander, "The Electro-Plastic Flow Modulator," First Symposium on Flow, Its Measurement and Control, 1243-1251, 1971 (Proceedings published in 1974).
11. G. F. Oster, D. M. Auslander, "Topological Representations of Thermodynamic Systems, Part I - Basic Concepts," *Journal of the Franklin Institute*, 292, 1-17, 1971.
12. G. F. Oster, D. M. Auslander, "Topological Representations of Thermodynamic Systems, Part II - Some Elemental Subunits for Irreversible Thermodynamics," *Journal of the Franklin Institute*, 292, 77-92, 1971.
13. D. M. Auslander, D. G. Chong and Y. Takahashi, "Optimal Digital Kalman Filtering for Systems with Continuous Input Noise," ASME Paper #71-WA/AUT-21, 1971.
14. D. M. Auslander, T. E. Lobdell and D. G. Chong, "A Large-Scale Model of the Human Cardiovascular System and its Application to Ballistocardiography," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 94, 230-238, 1972 (also, *Bibl. Cardio.* 32: 15-21, Karger, Basel, 1973).
15. D. M. Auslander, G. F. Oster, A. Perelson, and G. Clifford, "On Systems with Coupled Chemical Reaction and Diffusion," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 239-248, 1972.
16. G. F. Oster, D. M. Auslander, "The Memristor: A New Bond Graph Element," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 94, 249-252, 1972.
17. D. M. Auslander, "A Structured-Data Interactive Dynamic System Simulation Language Suitable for Mini-Computer Implementation," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 96, 261-268, 1974.
18. D. M. Auslander, G. F. Oster, C. F. Huffaker, "Dynamics of Interacting Populations," *Journal of the Franklin Institute*, 297, 345-375, 1974.
19. D. M. Auslander, N. T. Tsai, F. Farazian, "Bond Graph Models for Torsional Energy Transmission," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 97, 53-59, 1975.
20. Y. Takahashi, D. M. Auslander, "Simple Discrete Control of Industrial Processes," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 97, 354-361, 1975.
21. G. F. Oster, D. M. Auslander, T. T. Allen, "Deterministic and Stochastic Effects in Population Dynamics," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 98, 44-48, 1976.

22. D. M. Auslander, "Specifications for a Simulation Language for Population Ecology," Proceedings, 8th AICA Congress, 421-427, 1976.
23. D. M. Auslander, "Nonlinear Differential Equation Solving in the Engineering Curriculum," *Engineering Education* (Journal of the American Society for Engineering Education), 67, 1977.
24. D. M. Auslander, M. Tomizuka, Y. Takahashi, "Process Control Experience and a Self-Tuning Method for a Finite-Time Settling Controller/Observer," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 99, 209-210, 1977.
25. S. Abedi-Hayati, D. M. Auslander, "Control of a Single-Actuator Shaking Table," ASME Paper #77-WA/Aut-11, 1977.
26. D. M. Auslander, Y. Takahashi, M. Tomizuka, "Direct Digital Process Control: Practice and Algorithms for Microprocessor Application," *Proc. of the IEEE*, 66, 199-208, 1978.
27. D. M. Auslander, "A Continuous-System Simulation Language Designed for LSI Economics," *Mathematics and Computers in Simulation*, XX, 308-313, 1978.
28. D. M. Auslander, J. Guckenheimer, G. F. Oster, "Random Evolutionarily Stable Strategies," *Theoretical Population Biology*, 13, 276-293, 1978.
29. M. Tomizuka, D. M. Auslander, Y. Takahashi, "Simple Finite-Time Settling Control and Manipulated Variable Softening for Reverse-Reaction, Overshoot, and Oscillatory Processes," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 100, 50-58, 1978.
30. M. Tomizuka, D. M. Auslander, Y. Takahashi, "A Tutorial Introduction to Discrete-Time Optimal Control," ASME Paper #78-WA/DSC-18, 1978.
31. D. R. Gunewardana, M. Tomizuka, D. M. Auslander, "Application of Optimal Preview Control to Power Plant Cooling Systems," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 101, 162-171, 1979.
32. D. M. Auslander, M. Tomizuka, H. Lee, "An Optimal Standard for Solar Heating Systems," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 101, 138-149, 1979.
33. S. Abedi-Hayati, D. M. Auslander, "Control of Multi-Actuator Electro-Hydraulic Shaking Tables," *Fluidics Quarterly*, 11, 1-16, 1979.
34. D. M. Auslander, D. A. Dornfeld, P. Sagues, "Software for Microprocessor Control of Mechanical Equipment," Proc. of the Joint Automatic Control Conference, June, 1979, Denver, Colorado.

35. S. R. Schiller, M. L. Warren, D. M. Auslander, "Comparison of Proportional and On/Off Solar Collection Loop Strategies Using a Dynamic Collector Model," *Trans. ASME, J. of Solar Energy Engineering*, 102, 257-263, 1980.
36. D. M. Auslander, R. C. Spear, G. E. Young, "A Simulation-Based Approach to the Design of Control Systems with Uncertain Parameters," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 104, 20-26, 1982.
37. C. Vilmer, M. L. Warren, D. M. Auslander, "Interaction of a Solar Space Heating System with the Thermal Behavior of a Building," Proc. of ASME Conference on Systems Simulation, Economic Analysis/Solar Heating and Cooling Operational Results, Reno, Nev., 1981.
38. J. D. Stahr, D. M. Auslander, R. C. Spear, G. E. Young, "An Approach to the Preliminary Evaluation of Closed-Ecology Life Support System (CELSS) Scenarios and Control Strategies," Proc. Joint Societies Conference on Environmental Systems, ASME paper #81-ENAS-38, San Francisco, 1981.
39. D. M. Auslander, "Parasol-II: A Laboratory Simulation and Control Tool for Small Computers," *Computers in Mechanical Engineering* 1, 25-36, 1982.
40. D. M. Auslander, H-G Cai, X-Q Bian, "Finite-State Machine Approach to Preview Control of Two-Dimensional Motion," Proc., ASME Computer Engineering Conference, 1982.
41. D. M. Auslander, "Spatial Effects on the Stability of a Food-Limited Moth Population," *Journal of the Franklin Institute*, 314, 347-365, 1982.
42. I. E. Eronini, W. H. Somerton, D. M. Auslander, "A Dynamic Model for Rotary Rock Drilling," *Trans. ASME, J. of Energy Resources Technology*, 104, 108-120, 1982.
43. J. B. Shung, M. Tomizuka, D. M. Auslander, G. Stout, "Feedback Control and Simulation of a Wheelchair," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 105, 101-105, 1983.
44. J. B. Shung, G. Stout, M. Tomizuka, D. M. Auslander, "Dynamic Modeling and Analysis of a Wheelchair," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 105, 96-100, 1983.
45. T. Ishida, P. Sagues, D. M. Auslander, M. Tomizuka, R. L. Woods, "Engine Air Control (EAC) Fuel Injection System," Proc. of the 1984 American Control Conference (ACC), San Diego, CA, 1984.
46. M. Niv, D. M. Auslander, "Optimal Control of a Robot with Obstacles," Proc. of the 1984 American Control Conference (ACC), San Diego, CA, 1984.
47. T-L. A. Yeh, M. Tomizuka, D. M. Auslander, "Modeling and Multivariable Digital Control

of a Thermal Mixing Tank," ASME paper #83-WA/DSC-8, 1983.

48. P. S. Babcock IV, D. M. Auslander, R. C. Spear, "Dynamic Considerations for Control of Closed Life Support Systems, *Advances in Space Research*, 4,263-270, 1984.
49. P. S. Babcock IV, D. M. Auslander, M. Tomizuka, A. D. May, "The Role of Adaptive Discretization in a Freeway Simulation Model," *Transportation Research Record*, 971, 1984.
50. M. Tomizuka, A. Jabbari, R. Horowitz, D. M. Auslander, M. Denome, "Modelling and Identification of Mechanical Systems with Nonlinearities, "Proc., IFAC Symposium on System Identification, York, GB, 1985.
51. D. M. Auslander, "Uniform Control System Software," Proc., Conference on Applied Motion Control, Minneapolis, 1985.
52. K.C. Tsai, D. M. Auslander, "A Statistical Methodology for the Design of Robust Process Controllers," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 110, No. 2, June, 1988, 126-133.
53. A.C. Holt, B. Cunningham, G.C. Johnson, and D. M. Auslander, "An Ultrasonic Technique for Axial Bolt-Stress Determination," *Review of Progress in Quantitative Nondestructive Evaluation*, Vol 6B, Plenum Publishing Corporation, 1987.
54. J.J. Langberg, W.J. Gibb, J.C. Griffin, and D. M. Auslander, "Identification of Ventricular Tachycardia with use of the Morphology of the Endocardial Electrogram," *Circulation*, 77, No. 6, 1363-1369.
55. R.A. Lyman, D.M. Auslander, S. Rahgavan, "The Effects of Pulse Type Actuation on Control System Performance," Proceedings, ASME Winter Annual Meeting, 1988.
56. D.M. Auslander, "Technology for Computer Assisted, Medical Decision Making," Proceedings, Cardiotim, Monaco, Monte Carlo, June, 1988.
57. D.M. Auslander, "Learning to Design for Control," *Computers in Mechanical Engineering*, 7, No. 2, Sept/Oct 1988, 34-40.
58. L.L. Chen, A.D. May, D.M. Auslander, "Freeway Ramp Control Using Fuzzy Set Theory for Inexact Reasoning," *Transpn. Res-A*, 24A, No. 1, 1990, 15-25.
59. D. M. Auslander and M. Rizzi, "Effect of Control Algorithms on Fixed Pitch Wind Turbine Generators," *Trans. ASME, J. Solar Energy Engineering*, 112, No. 3, August 1990, 147-152.

60. D. M. Auslander and K. Dass, "Stopping: The Endpoint of Mechanical Motion Control," *Electrosoft, Computational Mechanics Publications*, 1, No. 3, September, 1990, 166-182.
61. D.M.Auslander, J.C. Griffin, A. Mayya, "Identification of Fiducial Points in Serial Data," *Trans. ASME, J. Dyn. Sys., Meas. and Control*, 113, No. 1, March, 1991, 178-183. (also in *Intelligent Control Systems*, DSC-Vol. 16, ASME, December 1989)
62. T. Yamaguchi, P. Slakey, M. Saxton, D.M. Auslander, P.A. Bachand, "Submicron Movement of an XY Table and a Feasibility Study for using Switching Mode Controllers," Japan-USA Symposium on Flexible Automation, Kyoto, Japan, July, 1990.
63. J Hu, J.P. Beans, D.M. Auslander, "Start/Stop Control of Fixed-Pitch Wind Energy Turbines," *Solar Energy*, 46, No. 1, 1991, 29-40.
64. R.C. Spear, F. Bois, T. Woodruff, D.M. Auslander, J. Parker, S. Selvin, "Modeling Benzene Pharmaco-Kinetics Across Three Sets of Animal Data: Parametric Sensitivity and Risk Implications," *Risk Analysis*, 11:641-654, 1991.
65. D. M. Auslander, "Control Implementation: Real Time Multitasking/Multiprocessing," *Advances in Control Education*, IFAC Symposium, Boston, MA, June, 1991.
66. T.J. Woodruff, F.Y. Bois, D. Auslander, R.C. Spear, "Structure and Parameterization of Pharmacokinetic Models: Their Impact on Model Predictions," *Risk Analysis*, 12, No. 2, 1992.
67. K. Kamei, D.M. Auslander, K. Inoue, "A Fuzzy Clustering Method for Multidimensional Parameter Selection in Systems with Uncertain Parameters," *IEEE International Conference on Fuzzy Systems*, Mar. 1992, San Diego, CA.
68. A. Fujii, A. Mauer, C.C. Chung, H. Li, D.M. Auslander, "Fine Motion Control: Nanometer Positioning of an XY Table," *ASME Winter Annual Meeting*, Dec. 1992, Anaheim, CA.
69. S. Gopalaswamy, D.M. Auslander, "Performance Analysis of a Mixed Traffic Network in a Manufacturing Environment," *American Control Conference*, June, 1993, San Francisco, CA.
70. D.M. Auslander, M. Lemkin, A-C Huang, "Control of Complex Mechanical Systems," *International Federation of Automatic Control*, 1993 World Congress, July, 1993, Sydney, Australia.
71. W. J. Gibb, D. M. Auslander, J. C. Griffin, "Selection of Myocardial Electrogram Features for use by Implantable Devices," *IEEE Transactions on Biomedical Engineering*, 40, No. 8, Aug., 1993, pp 727-735.

72. D.M. Auslander, "Operator Interface Development for Control Software," *IEEE Control Systems*, 13, No. 4, Aug., 1993, pp 66-72.
73. D.M. Auslander, "Unified Real Time Task Notation for Mechanical System Control," ASME Winter Annual Meeting, Dec. 1993.
74. H. Li, K. Watanabe, D. Auslander, R.C. Spear, "Model Parameter Estimation and Analysis: Understanding Parametric Structure," *Annals of Biomedical Engineering*, v22, pp 97-111, 1994.
75. Karen H. Watanabe, Frederic Y. Bois, Joan M. Daisey, David M. Auslander, and Robert C. Spear, "Benzene Toxicokinetics in Humans: Exposure of Bone Marrow to Metabolites," *OEM*, June 1994, 51(6): 414-20.
76. W. J. Gibb, D. M. Auslander, J. C. Griffin, "Adaptive Classification of Myocardial Electrogram Waveforms," *IEEE Transactions on Biomedical Engineering*, 41, No. 8, Aug., 1994, pp 804-808.
77. A-C Huang, D. M. Auslander, "Stabilization of a Class of Nonlinear Systems Using Backstepping," American Control Conference, June, 1994.
78. E. Mizutani, J-S. R. Jang, K. Nishio, H. Takagi, D.M. Auslander, "Coactive Neural Networks with Adjustable Fuzzy Membership Functions and Their Applications," Proceedings of the 3rd International Conference on Fuzzy Logic, Neural nets and Soft Computing, Iizuka, Japan, August, 1994.
79. E. Mizutani, H. Takagi, D.M. Auslander, "A Cooperative System of Neural Networks and Genetic Algorithm with Fuzzy Population Generator for Computer Color Recipe Prediction," Proceedings of the 3rd International Conference on Fuzzy Logic, Neural nets and Soft Computing, Iizuka, Japan, August, 1994.
80. W.S. Ellis, D.M. Auslander, and M.D. Lesh, "Effects of coupling heterogeneity on fractionated electrograms in a model of non-uniformly anisotropic ventricular myocardium", *J. of Electrocardiology*, vol. 27S, 1994, p. 171-178
81. D. M. Auslander, A-C Huang, M. Lemkin, "A Design and Implementation Methodology for Real Time Control of Mechanical Systems," *Mechatronics*, Pergamon, 5, No. 7, 1995, pp 811-832.
82. J. N. Eisenberg, C. W. Pawlowski, D. R. Maszle, D. M. Auslander, "System Issues for Controlled Ecological Life Support Systems," *Life Supp & Biosph Sci*, 1, No. 3/4, 1995, pp 141-157.

83. E. Mizutani, H. Takagi, D.M. Auslander, "A Cooperative System Based on Soft Computing Methods to Realize Higher Precision of Computer Color Recipe Prediction," Proceedings, Applications and Science of Artificial Neural Networks, The International Society for Optical Engineering, Orlando, FL, April, 1995.
84. M. Lemkin, P-H Yang, D.M. Auslander, "Using a Hydraulically Balanced Beam as a Case Study in Control Implementation for Control Education," American Control Conference, Seattle, WA, June, 1995; Also, *ASME J. Dynamics Systems Measurement and Control*, vol. 115 #4, Dec 1997, pp 815-819.
85. M. Lemkin, P-H Yang, A.C. Huang, J. Jones, D.M. Auslander, "Velocity Estimation From Widely Scattered Encoder Pulses," American Control Conference, Seattle, WA, June, 1995.
86. J.N. Eisenberg, D.R. Maszle, C.W. Pawlowski, D.M. Auslander, "Methodology for Plant Growth Strategies in Life-Support Systems," *ASCE Journal of Aerospace Engineering*, 8, No. 3, July, 1995, pp 139-147.
87. W.S. Ellis, D.M. Auslander, and M.D. Lesh, "Fractionated electrograms from a computer model of heterogeneously uncoupled anisotropic ventricular myocardium", *Circulation*, vol. 92, 1995, p. 1619-1626
88. J.-D. Decotignie, D.M. Auslander, M. Moreaux, "Fieldbus Based Integrated Communications and Control Systems - Architectural Implications," 4th International Workshop on Advanced Motion Control, Mie University, Tsu, Mie, Japan, March, 1996.
89. J.-D. Decotignie, D.M. Auslander, "Executives for Real-Time Control," Japan/USA Conference on Flexible Automation, Boston, MA, July, 1996.
90. N.A. Kheir, K.J. Astrom, D.M. Auslander, K.C. Cheok, G.F. Franklin, M. Masten, M. Rabins, "Control System Engineering Education," *Automatica*, 32, No. 2, Elsevier Science, Ltd., 1996, pp 147-166.
91. W.S. Ellis, S.J. Eisenberg, D.M. Auslander, M.W. Dae, A. Zakhor, and M.D. Lesh, "Deconvolution: a novel signal processing approach for determining activation time from fractionated electrograms and detecting infarcted tissue", *Circulation*, vol. 94, 1996, p. 2633-2640
92. M.A. Lemkin, B.E. Boser, D.M. Auslander, "A Fully Differential $\Sigma\Delta$ Accelerometer with Drift Cancellation Circuitry," Solid-State Sensor and Actuator Workshop, Hilton Head, SC, June, 1996.
93. W.S. Ellis, S.J. Eisenberg, D.M. Auslander, M.W. Dae, A. Zakhor, and M.D. Lesh, "Deconvolution of electrograms to detect infarcted myocardium", *Proceedings of IEEE*

International Conference on Acoustics, Speech, and Signal Processing, vol. 3, 1996, p.1772-1775

94. M.A. Lemkin, B.E. Boser, D.M. Auslander, J.H. Smith "A 3-Axis Force Balanced Accelerometer Using a Single Proof-Mass", International Solid State Conference on Sensors and Actuators, Chicago, IL, June, 1996.
95. D. M. Auslander, C. Pawlowski, J. Ridgely, "Reconciling Programmable Logic Controllers (PLCs) with Mechatronics Control Software," IEEE International Conference on Control Applications, Detroit, MI, September, 1996.
96. P-H Yang, D.M. Auslander, "A Unified Approach to Iterative Learning Control Using Neural Network and Integral Control with Anti-Windup," American Control Conference, Albuquerque, NM, June, 1997.
97. B.A. Awabdy, W-C Shih, D.M. Auslander, "Nanometer Positioning of a Linear Motion Stage Under Static Loads," *IEEE/ASME Transactions on Mechatronics*, vol. 3, #2, June 1998, pp 113-119.
98. P-H Yang, D. M. Auslander, "Controlling the Transition from Stable Resting to Tracking Control of an Unstable System," American Control Conference, Philadelphia, PA, June, 1998. Also, *ASME J. Dyn Sys. Meas. And Control*, June, 2002.
99. D.M. Auslander, "Concepts of 'State' in Introductory Control Education," *Perspectives in Control*, Edited by D. Normad-Cyrot, Springer-Verlag, London, 1998, pp. 179-190.
100. E. Mizutani, H. Takagi and D.M. Auslander, "Evolving Color Recipes," *IEEE Transactions on Systems, Man, and Cybernetics*, in press.
101. W.S. Ellis, A. Sippensgroenewegen, D.M. Auslander, M.D. Lesh, "The Role of the Crista Terminalis in Atrial Flutter and Fibrillation: a Computer Modeling Study," *Annals of Biomedical Engineering*, Vol. 28, pp. 742-754, 2000.
102. C.W. Pawlowski, D.M. Auslander, "A Hierarchical Approach to the Sustainable Management of Controlled Ecological Life Support Systems: Part 1: An Ecological and Engineering Synthesis," *Life Support and Biosphere Science*. (Vol. 7, pp. 161-170, 2000)
103. C.W. Pawlowski, D.M. Auslander, "A Hierarchical Approach to the Sustainable Management of Controlled Ecological Life Support Systems: Part 2, System Realization and Analysis," *Life Support and Biosphere Science*. (Vol. 7, pp. 171-185, 2000)
104. D. M. Auslander, "An Object-Oriented Approach to Basic Mechanics," Proceedings of the ASME International Mechanical Engineering Conference and Exposition, November 2000, Orlando, Fla, pp 771-778.

105. S. Lanning, C.C. Federspiel, D.M. Auslander, "The Impact of Phase Modulation on the Performance of Pulse-Width Modulated Controls", American Control Conference, Arlington, VA, June 25-27, 2001.
106. R.A. Martin, C.C. Federspiel, D.M. Auslander, "Supervisory Control for Energy Savings and Thermal Comfort in Commercial Building HVAC Systems," AAAI 2002 Spring Symposium on Information Refinement and Revision for Decision Making: Modeling for Diagnostics, Prognostics, and Prediction, Stanford Univ, Stanford, CA, 25-27 Mar 2002.
107. R.A. Martin, C.C. Federspiel, D.M. Auslander, "Responding to Thermal Sensation Complaints in Buildings?" *ASHRAE Transactions*, v108(1), 2002.
108. Lin, C., C. Federspiel, and D. Auslander, "Multi-Sensor Single-Actuator Control of HVAC Systems." International Conference for Enhanced Building Operations, Richardson, TX, October, 2002.
109. Auslander, David, "Java As a Basis for Direct Mechanical System Control, International Federation of Automatic Control (IFAC), 2nd Conference on Mechatronic Systems, Berkeley, CA, December, 2002.
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