

A.Galip Ulsoy

C.D. Mote Jr. Distinguished University Professor Emeritus of Mechanical Engineering and the William Clay Ford Professor Emeritus of Manufacturing
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Professional Preparation

B.S., Engineering, Swarthmore College, 1973
M.S., Mechanical Engineering, Cornell University, 1975
Thesis: Optimal Pseudo-Derivative Feedback Control, Advisor: R.M. Phelan
Ph.D., Mechanical Engineering University of California, Berkeley, 1979
Thesis: Vibration and Stability of Bandsaw Blades, Advisor: C.D. Mote, Jr.

Appointments

- Department of Mechanical Engineering, College of Engineering, University of Michigan, Ann Arbor: C.D. Mote Jr Distinguished University Professor Emeritus, William Clay Ford Professor Emeritus of Manufacturing, Professor Emeritus (2016-); C.D. Mote Jr Distinguished University Professor (2009-2016); Founding Director (2007-2009) and Deputy Director (2009-2011), Ground Robotics Reliability Center; William Clay Ford Professor of Manufacturing (1996- 2016); Founding Deputy Director, NSF Engineering Research Center for Reconfigurable Machining Systems (1996-2002, 2006-); Professor (1992- 2016); Chair (1998-2001); Founding Director (1993-1998), Program in Manufacturing; Director (1992-94), and Founding Associate Director (1990-92), NSF Industry-University Cooperative Research Center for Dimensional Measurement and Control in Manufacturing, Associate Chair (1992-93); Graduate Program Chair (1987-1989); Associate Professor (1986-92); Director (1984-86), Consortium on Diagnostic Sensing and Control for Metal Cutting; Assistant Professor (1980-86).
- Division of Civil and Mechanical Systems, NSF: Director (2003-2005).
- Ford Scientific Research Laboratory: Visiting Researcher, 1995 and summers 1992-93.
- Department of Mechanical Engineering, Boğaziçi University, Istanbul, Turkey: Visiting Associate Professor (1986-87).

Five Relevant Publications

- [1] "Tracking Control of Non-Minimum Phase Systems using Filtered Basis Functions," K.S. Ramani, M. Duan, C.E. Okwudire, A.G. Ulsoy, *ASME J. Dynamic Systems, Measurement and Control*, Vol. 139, No. 1, Jan. 2017, 011001 (11 pages).
- [2] "Dynamic Contour Error Estimation and Feedback Modification for High-Speed, High-Precision Contouring," A. Ghaffari and A.G. Ulsoy, *IEEE/ASME Trans. Mechatronics*, Vol. 21, No. 3, June 2016, pp. 1732-1741.
- [3] "Relationship Between Coupling and the Controllability Gramian in Co-Design Problems," D.L. Peters, P.Y. Papalambros, A.G. Ulsoy, *Mechatronics*, Vol. 29, August 2015, pp. 36-45.

- [4] "Time-Delayed Control of SISO Systems for Improved Stability Margins," A.G. Ulsoy, *ASME J. Dynamic Systems, Measurement and Control*, Vol. 137, No. 4, April 2015, 041014 (12 pages). (2016 ASME JDSMC Rudolf Kalman Best Paper Award).
- [5] "Spectrum Design Using Distributed Delay," F. Wei, D. Bachrathy, G. Orosz, and A.G. Ulsoy, *Int. J. of Dynamics and Control*, Vol. 2, No. 2, June 2014, pp. 234-26.

Five Other Publications

- [1] *Process Control for Sheet Metal Stamping*, Y.S. Lim, R. Venugopal and A.G. Ulsoy, Springer, 2014.
- [2] *Automotive Control Systems*, A.G. Ulsoy, H. Peng and M. Çakmakçı, Cambridge University Press, 2012.
- [3] *Time Delay Systems: Analysis and Control using the Lambert W Function*, S. Yi, P.W. Nelson and A.G. Ulsoy, World Scientific, 2010.
- [4] "Controllability and Observability of Systems of Linear Delay Differential Equations via the Matrix Lambert W Function," S. Yi, P.W. Nelson, and A.G. Ulsoy, *IEEE Trans. Automatic Control*, Vol. 53, No. 3, April 2008, pp 854-860.
- [5] "Reconfigurable Manufacturing Systems," Y. Koren, U. Heisel, F. Jovane, T. Moriwaki, G. Pritchow, A.G. Ulsoy and H. VanBrussel, *CIRP Annals*, Vol. 48, No. 2, 1999, pp. 527-540 (*keynote paper*).

Synergistic Activities

- Co-inventor on 3 US patents, and 1 European patent.
- Co-developed and taught six new courses, and two industry short courses, in the areas of control systems and manufacturing systems.
- Deputy Director of the NSF Engineering Research Center for Reconfigurable Manufacturing Systems, Ann Arbor, MI.
- Founding Director of the Program in Manufacturing at the University of Michigan, which awards the Master of Engineering and Doctor of Engineering degrees in Manufacturing, both on-campus and via distance learning, with over 100 students per year.
- Founding Editor of *ASME Dynamic Systems and Control Magazine*, Served as Editor of the *ASME Transactions, Journal of Dynamic Systems, Measurement and Control* and as member of the editorial board for several international journals.
- President, American Automatic Control Council
- Awards include the 2014 Hideo Hanafusa Outstanding Investigator Award in Flexible Automation, 2013 Charles Russ Richards Memorial Award from ASME and PI Tau Sigma, 2012 Special Award from the Turkish Scientific and Technological Research Council, 2008 ASME Rufus Oldenburger Medal, 2008 SME Albert M. Sargent Progress Award, ASME DSCD 2004 H.M. Paynter Outstanding Investigator Award, 2003 and 2016 Best Paper Awards from *ASME Journal of Dynamic Systems, Measurement and Control* and the 1993 O. Hugo Shuck Best Paper Award and the 2020 Richard E. Bellman Control Heritage Award from the American Automatic Control Council.
- Member, U.S. National Academy of Engineering; Fellow of ASME, IEEE, SME and IFAC.