KAROLOS M. GRIGORIADIS

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I.   GENERAL

EDUCATION

Ph.D. in Aeronautics and Astronautics, Purdue Univ., 1994.

M.S. in Mathematics, Purdue Univ., 1993

M.S. in Aerospace Engineering, Virginia Polytechnic Inst. & State Univ., 1989

B.S. in Mechanical Engineering, National Tech. Univ., of Athens, Greece, 1987.

ACADEMIC APPOINTMENTS

Professor, Dept. of Mech. Eng., Univ. of Houston, Sept. 2004 – pres

Director, Aerospace Interdisciplinary Program, Univ. of Houston, Aug 1999 – pres.

Associate Professor, Dept. of Mech. Eng., Univ. of Houston, Sept.. 1999 – Aug. 2004..

Bill D. Cook Endowed Professorship, Univ. of Houston, Jan. 1998 – Dec. 2002

Co-Director, Dynamic Systems Control Laboratory, Univ. of Houston, Aug. 1995 – pres.

Assistant Professor, Dept. of Mech. Eng., Univ. of Houston, Aug. 1994 – Aug. 1999.

Research Assistant, Space Systems Control Lab., Purdue Univ., Aug. 1989 – Aug. 1994

Research/Teaching Assistant, Aerospace Engineering, VPI&SU, Jan. 1988 – Aug. 1989.

RESEARCH AREAS

Feedback Control Systems Analysis and Design; Modeling. Identification and Control; Systems Model Reduction and System Filtering/Estimation; Robust and Nonlinear Control; System Optimization and Optimal Control; Design Integration for Engineering Dynamical Systems; Application in Structural Sysrems, Electro-Mechanical Systems, Smart Materials and Aerospace Systems.

TEACHING AREAS

System Dynamics; Feedback Control; Vibrations; Structural Analysis; Nonlinear and Optimal Control; Robust Control; Flight Dynamics and Control; Optimization Methods; Applied Mathematics.

AWARDS, HONORS AND PROFESSIONAL ACCOMPLISHMENTS

Senior Faculty Research Excellence Award, Cullen College of Engineering, University of Houston, 2009

*Outstanding Teacher Awar*d, Cullen College of Engineering, University of Houston, 2009

Invited Plenary Speaker, *International Workshop on Fixed-Point Methods for Inverse Problems in Science and Engineering*, Banff International Research Center, University of Alberta, Canada, 2009.

> *The interdisciplinary workshop brings together a group of world-class participants from diverse areas of science and engineering with the objective of pursuing innovative research and collaborations*

Award for Outstanding Contribution as Conference Chair, International Association for Science and Technology for Development, 2008

General Chair, 11th IASTED International Conference on Intelligent System and Control (ISC 2008), Orlando, Florida, Nov. 2008.

Invited Plenary Speaker, 6th International Congress on Mechatronics Engineering, Monterrey, Mexico, March 2008.

Invited Visiting Professorship, Loughborough University, U.K., 2008-2011 http://www.lboro.ac.uk/departments/el/staff/grigoriadis.html

> *The invited Professorship position involves collaboration on a funded project by the European Engineering and Physical Sciences Research Council (EPSRC) and visits for delivery of seminars and lectures at Loughborough University*

ASME Professor of the Year, University of Houston, 2007

Director and Principal Investigator, *Texas Workforce Commission Aerospace Workforce Innovation Network (AWIN),* 2007-2009.

Director and Principal Investigator, NSF STEM Center at UH *Accelerated B.S. to Graduate (FastGrad) Program in Engineering*, 2007-2012.

Invited External Dissertation Committee Member, Loughborough University, U.K., 2007

General Conference Chair, 4th International Conference on Control and Signal Processing, Miami, Florida, Nov. 2005.

UH/Boeing Fellowship Program Director:

> *In collaboration with Boeing Company initiated a fellowship program where under Boeing sponsorship NATO countries send students to UH for advanced degrees in Aerospace Engineering*

Invited Speaker and Participant, *International Workshop on New Directions in the Modeling and Control of Complex Systems*, Agia Napa, Cyprus, June 2005.

Associate Fellow, American Institute of Aeronautics and Astronautics, 2004.

W. T. Kittinger Outstanding Teaching Award, Cullen College of Engineering, University of Houston, 2003

ASME Professor of the Year, University of Houston, 2003

University Excellence in Research and Scholarship Award - Associate Professor Level, University of Houston, 2003

Outstanding Teacher Award, Cullen College of Engineering, University of Houston, 2001

Outstanding Teacher Award, Cullen College of Engineering, University of Houston, 2000

Junior Faculty Research Excellence Award, Cullen College of Engineering, University of Houston, 1999

Herbert Allen Award for Outstanding Contributions by a Young Engineer, ASME South Texas Section 1999

Invited Lecturer, Short-Course Organizer and Invited Participant, *International Summer School on LMI Methods in Identification, Optimization and Control,* University of Compiegne, Compiegne, France, May 1999.

Outstanding Teacher Award, Cullen College of Engineering, University of Houston, 1999

Rotary Stellar Award, Rotary National Foundation for Space Achievement, 1999

Technical Educator of the Year, Clear Lake Council of Technical Societies, 1998.

ENRON University Teaching Excellence Award, University of Houston, 1998.

Outstanding Teacher Award, Cullen College of Engineering, University of Houston, 1998

Outstanding Achievement Award, 1997-1998 FIRST Robotics Competition, Pasadena ISD, 1998.

AIAA Technical Educator of the Year Award, AIAA Houston Section, 1998.

Bill D. Cook Endowed Professorship, Cullen College of Engineering, University of Houston, 1998 – 2002.

Ralph R. Teetor Award, Society of Automotive Engineers, 1998.

University Excellence in Research and Scholarship Award - Assistant Professor Level, University of Houston, 1998.

ASME Professor of the Year, University of Houston, 1997.

National Science Foundation CAREER Award, 1997.

Invited External Dissertation Committee Member, Technical University of Denmark

Visiting Scholar, Technical University of Denmark, Lyngby, Denmark, May-June 1997.

Outstanding Teacher Award, Cullen College of Engineering, University of Houston, 1997

ASME Professor of the Year, University of Houston, 1996.

IEEE Control Systems Society Travel Award, 35th IEEE Conference on Decision and Control, Kobe, Japan, 1996.

Session Best Paper Presentation Awards, American Control Conference, 1993, 1994, 1996, 1998, 2003

International Scholarship, Summer School on Control Theory, Center for Research in Mathematics, University of Montreal, 1992.

National Scholarship, A. Onassis Foundation Athens, Greece, 1987-1993.

National Scholarship, I. Pateras Foundation, Athens, Greece,1987-1994.

Who's Who in Science and Engineering, 1994-present

Member, Tau Beta Pi, Phi Kappa Phi, Sigma Xi.

II.   SCHOLARLY ACTIVITY

PUBLICATIONS

Books

1. Grigoriadis, K., and Mohammadpour, J., *Efficient Modeling and Control of Large-Scale Systems*, Springer-Verlag, (book in progress with signed contract).
2. Kapila, V., and Grigoriadis, K. M. (eds), *Actuator Saturation Control*, Marcel Dekker, New York, 2003.
3. Skelton, R., E., Iwasaki, T., and Grigoriadis, K. M., *A Unified Algebraic Approach to Linear Control Design*, Taylor & Francis, 1998.

Books in Progress

1. Grigoriadis, K., and Mohammadpour, J., *Efficient Modeling and Control of Large-Scale Systems*, Springer-Verlag, (in progress with signed contract).

Book Chapters

1. Grigoriadis, K. M., and Wu, F., Actuator Saturation Control via Linear Parameter Varying Control Methods, in *Actuator Saturation Control* (V. Kapila and K. M. Grigoriadis, eds), Marcel Dekker, New York, 2003.
2. Grigoriadis, K. M. and Beran, E., Alternating Projection Methods for LMI Problems with Rank Constraints, in *Advances in Linear Matrix Inequality Methods in Control* (S.-I. Niculescu and L. El Ghaoui, eds.), Advances in Design and Control, SIAM, Philadelphia, pp. 251-277, 2000 **(Invited)**.
3. Skelton, R. E., Zhu, G., and Grigoriadis, K. M., Optimum Controller Design for Finite Wordlength Implementation, in Control and Dynamic Systems (C.T. Leondes, ed.), Vol. 78: *Digital Control and Signal Processing Systems and Techniques*, Academic Press, San Diego, 1996 **(Invited).**

Journal Publications

1. Meisami-Azad, M., Mohammadpour, J. and Grigoriadis, K. M., "Dissipative analysis and control of state-space symmetric systems," *Automatica*, Volume 45, No. 6, June pp. 1574-1579, 2009
2. Mehendale, C.S., Fialho, I. J., and Grigoriadis, K. M., **"**A Linear Parameter-varying Framework for Adaptive Active Microgravity Isolation," *Journal of Vibration and Control*, Vol: 15, No: 5, pp. 773-800, 2009.

3. Meisami-Azad, M., Mohammadpour-Velni, J., and Grigoriadis, K. M., "Explicit Solutions for Collocated Structural Control with Guaranteed H_2 norm Performance Specifications," *Smart Materials and Structures*, Vol. 18, No. 3, pp. 213-222, 2009.

4. Zhang F, Grigoriadis, K. M, and Fialho I. J., "Linear Parameter-varying Control for Active Vibration Isolation Systems with Stiffness Hysteresis," *Journal of Vibration and Control*, Vol. 15, No: 4, pp. 527-547, 2009

5. Hiramoto, K., and Grigoriadis, K. M., "Upper Bound Control of Collocated Mechanical Systems," *Structural Control and Health Monitoring*, Vol 16, No. 4, pp. 425-440, 2009.

6. Mohammadpour, J. , Meisami-Azad, M., and Grigoriadis, K. M., "Integrated Damping Parameter and Control Design in Structural Systems for H_2 and H_∞ Specifications," *Structural and Multidisciplinary Optimization*, Vol. 38, No: 4 pp. 377-387, 2009.

7. Demetriou, M. A, and Grigoriadis, K. M., and Sweeney, R., "Collocated Control of a Smart Cantilevered Beam using an Analytical Upper-bound Approach," *Journal of Intelligent Material Systems and Structures*, Vol. 20, pp. 865-873, 2009.

8. Bai, Y., and Grigoriadis, K. M., "Damping Parameter Design Optimization in Structural Systems Using an Explicit H_∞ Norm Bound," *Journal of Sound and Vibration*, Vol. 319, pp. 795–806, 2009.

9. Nobrega, E., Abdalla, M., and Grigoriadis, K. M., "Robust Fault Estimation in Uncertain Systems Using an LMI-Based Approach," *International Journal of Robust and Nonlinear Control*, Vol. 18, pp. 1657-1680, 2008.

10. Mohammadpour Velni, J , and Grigoriadis, K. M., "Rate-dependent Mixed H^2/H^∞ Filter Design for Parameter Dependent State-delayed LPV Systems, *IEEE Transactions on Circuits and Systems*,. Vol. 55, No. 7, pp. 2097-2105, 2008.

11. Mehendale, C; and Grigoriadis, K. M., "A Double Homotopy Method for Decentralised Control Design, *International Journal of Control*, Vol. 81, No. 10, pp. 1600-1608, 2008

12. Zhang, F., Grigoriadis, K. M., Franchek, M., Makki, I. H., "Transient Lean Burn Air-Fuel Ratio Linear Parameter-Varying Control Using Input Shaping," *International Journal of Modeling, Identification and Control: Special Issue: Advanced Control Systems in Automotive Applications*, Vol. 3, No. 3, pp. 318-326, 2008.

13. Mohammadpour Velni, J , and Grigoriadis, K. M., "Delay-dependent H_∞ Filtering for Time-delayed LPV Systems, *Systems & Control Letters*,. Vol. 57, No. 4, pp. 290– 299, 2008.

14. Han, L., Song, G., Li, H., and Grigoriadis, K. M." H_∞ Robust Control Design of Active Structural Vibration Suppression Using an Active Mass Damper," *Smart Materials and Structures*, Vol. 17, pp. 121-134, 2008.

15. Franco, J., Franchek, M.A., and Grigoriadis, K.M., "Real-time brake torque estimation for internal combustion engines", *Mechanical Systems and Signal Processing*, Vol. 22, No. 2, pp. 338-361, 2008.

16. Zhang, F., Grigoriadis, K. M., and Fialho, I., "Linear Parameter Varying Antiwindup Compensation for Active Microgravity Vibration Isolation," *AIAA Journal of. Guidance, Control and Dynamics*, Vol. 30, No. 4, pp. 1062-1067, 2007.

17. Zhang, F., Grigoriadis, K. M., Franchek, M., and Makki, I., "Parameter varying Lean Burn Air-Fuel Ratio Control for IC Engines, *ASME Journal of Dynamical Systems and Control*, Vol. 129, No. 4, pp. 404-414, 2007

18. Mohammadpour Velni, J , and Grigoriadis, K. M., "Less Conservative Results for Delay-dependent H_∞ Filtering for a Class of Time-delayed LPV Systems," *International Journal of Control,* Vol. 80. No. 2, pp. 281-291, 2007.

19. Tan, K. and Grigoriadis, K. M., "Stabilization and H_∞ Control of Discrete-Time Symmetric Systems, *Journal of the Franklin Institute*, Vol. 344, pp. 58-73, 2007

20. Grigoriadis, K. M., "Discussion on Energy-to-Peak Model Reduction for 2-D Discrete Systems in Fornasini-Marchesini Form," *European Journal of Control*, Vol. 12, pp. 432-434, 2006 **(Invited).**

21. Hiramoto, K., and Grigoriadis, K. M., "Integrated Design of Structural and Control Systems with a Homotopy-like Iterative Method," *International Journal of Contro*l, Vol. 79, No. 9, pp. 1062-1073, 2006.

22. Bai, Y., and Grigoriadis, K. M., "H_∞ Collocated Control of Structural Systems: An Analytical Bound Approach," AIAA *Journal of Guidance, Control and Dynamics*, Vol. 28, No.5, pp. 850-855, 2005.

23. Song, Q., and Grigoriadis, K. M., "Linear Parameter varying Control of Delay Systems with Applications to Engine Control," *Transactions on Systems*, Vol. 5, No. 3, pp. 2331-2335, 2004.

24. Tan, K., and Grigoriadis, K. M., "H_∞ and L_2 to L_∞ Gain Control of LPV Systems with Parameter Varying Delays," *IEE Proceedings on Control Theory and Applications*, Special Issues on LMI Control, Vol. 150, No. 5, pp. 509-518, 2003.

25. Abdalla, M., Grigoriadis, K. M., Zimmerman, D. Z., "An Optimal Hybrid Expansion-Reduction Damage Detection Method," *Journal of Vibration and Control*, Vol. 9, No. 8, pp. 883-895, 2003.

26. Tan, K., and Grigoriadis, K. M, "Output-feedback Control of LPV Sampled-data Systems, *International Journal of Control*, Vol. 75, No. 4, pp. 252 – 264, 2002

27. Sidi-Ali-Cherif, S., and Grigoriadis, K. M., "Efficient Model Reduction of Large Scale Systems Using Modified Krylov-subspace Iterative Methods," *International Journal of Engineering Science*, Vol. 41, N. 3-5, pp. 507 – 520, 2002.

28. Tan, K., and Grigoriadis, K. M., "Stabilization and H_∞ Control of Symmetric Systems: An Explicit Solution," *Systems & Control Letters*, Vol. 44, pp. 57-72, 2001.

29. Wu, F, and Grigoriadis, K. M., "LPV Systems with Parameter-Varying Time Delays: Analysis and Control," *Automatica*, Vol. 37, No. 2, pp. 221-229, 2001.

30. Abdalla, M. O, Grigoriadis, K. M, and Zimmerman, D. C., "Structural Damage Detection Using Linear Matrix Inequality Methods," *Journal of Vibration and Acoustics*, Vol. 122, No. 4, pp. 448-455, 2000.

31. Tan, K., and Grigoriadis, K. M. "State-Feedback Control of LPV Sampled-Data Systems," *Mathematical Problems in Engineering*, Vol. 6, pp. 145-170, 2000.

32. Shi, G., Skelton, R. E., and Grigoriadis, K. M., "Minimum Output Variance Control for FSN Models," *Mathematical Problems in Engineering*, Vol. 6, pp. 171-188, 2000.

33. Wu, F., Grigoriadis, K. M., and Packard, A., "Anti-windup Controller Design Using Linear Parameter-Varying Control Methods," *International Journal of Control*, Vol. 73, No. 12, pp. 1104-1114, 2000.

34. Sidi-Ali-Cherif, S., Grigoriadis, K. M, and Subramaniam, M, "Model Reduction of Large Space Structures Using Approximate Component Cost Analysis," *AIAA Journal of Guidance, Control and Dynamics*, Vol. 22, No. 4, pp. 551-558, 1999.

35. Mayzus, A., and Grigoriadis, K. M., "Performance bounded integrated structural and controller design using linear matrix inequalities," *Shock and Vibration Digest*, Vol. 31, no. 3, pp. 51-58, 1999.

36. Watson, J., and Grigoriadis, K. M., "Optimal Unbiased Filtering via Linear Matrix Inequalities," *Systems & Control Letters*, Vol. 35, No. 2, pp. 111-118, 1998

37. Abdalla, M. O, Grigoriadis, K. M., and Zimmerman, D.C., "Enhanced Structural Damage Detection Using Alternating Projection Methods," *AIAA Journal*, Vol. 36, No. 7, pp. 1305-1311, 1998.

38. Hassioti, S, and Grigoriadis, K. M., "Damage Detection Using Impulse Response," *Nonlinear Analysis*, Vol. 30, No. 8, pp. 4757-4766, 1997.

39. Grigoriadis, K. M., and Watson, J., "Reduced-order H_∞ Filtering ", *IEEE Transactions on Aerospace and Electronic Systems*, Vol. 33, No. 4, pp. 1326-1338, 1997.

40. Grigoriadis, K. M., "L_2 and L_2-L_∞ Model Reduction via Linear Matrix Inequalities", *International Journal of Control*, Vol. 68, No. 3, pp. 485-498, 1997.

41. Syrmos, V., Abdallah, C., Dorato, P. and Grigoriadis, K. M., "Static Output Feedback: A Survey," *Automatica*, Vol. 33, No. 2, pp. 125-137, 1997.

42. Grigoriadis, K. M., and Skelton, R. E., "Minimum Energy Covariance Controllers," *Automatica*, Vol. 33, No. 4, pp. 569-578, 1997.

43. Grigoriadis, K. M., and Skelton, R. E., "Low-order Control Design for LMI Problems Using Alternating Projections," *Automatica*, Vol. 32, No. 8, pp. 117-1125, 1996.

44. Grigoriadis, K. M., Zhu, G. and Skelton, R. E., "Optimal Redesign for Linear Systems," *ASME Journal of Dynamic, Systems, Measurement and Control*, Vol. 118, pp. 598-605, 1996.

45. Grigoriadis, K. M., and Skelton, R. E., "Alternating Convex Projection Methods for Discrete-Time Covariance Control Design," *Journal of Optimization Theory and Applications*, Vol. 88, No. 2, pp. 399-432, 1996.

46. Grigoriadis, K. M., "Optimal H_∞ Model Reduction via Linear Matrix Inequalities," *Systems & Control Letters*, Vol. 26, pp. 321-333, 1995.

47. Frazho, A. E., Grigoriadis, K. M, and Kherat S., "Alternating Projection Methods for Mixed H_2 and H_∞ Nehari Problems," *IEEE Transactions on Automatic Control*, Vol. 40, No. 12, pp. 2127-2131, 1995.

48. Zhu, G., Grigoriadis, K. M., and Skelton, R. E., "Covariance Control Design for the Hubble Space Telescope," *AIAA Journal of Guidance, Control and Dynamics*, Vol. 18, No. 2, pp. 230-236, 1995.

49. Grigoriadis, K. M., and Skelton, R. E., "Alternating Convex Projection Methods for Covariance Control Design," *International Journal of Control*, Vol. 60, No. 6, pp. 1083-1106, 1994.

50. Grigoriadis, K. M., Frazho, A. E., and Skelton R. E., "Application of Alternating Convex Projection Methods for Computation of Positive Toeplitz Matrices," *IEEE Transactions on Signal Processing*, Vol. 42, No. 7, pp. 1873-1875, 1994.

51. Yasuda, S., Skelton, R. E., and Grigoriadis, K. M., "Covariance Controllers: A New Parametrization of All Stabilizing Controllers," *Automatica*, Vol. 29, No. 3, pp. 785-788, 1993.

52. Smith, M. J., Grigoriadis, K. M., and Skelton, R. E., "Optimal Mix of Passive and Active Control in Structures," *AIAA Journal of Guidance, Control and Dynamics*, Vol. 15, No. 4, pp. 912-919, 1992.

53. Liu, K., Skelton, R. E., and Grigoriadis, K. M., "Optimal Controllers for Finite Wordlength Implementation," *IEEE Transactions on Automatic Control*, Vol. 37, No. 9, pp. 1294-1304, 1992.

Refereed Conference Proceeding Publications ([†] presenter)

1. Mohammadpour, J., Grigoriadis, K. M., Franchek, M. A., and Wang, Y. Y., "LPV Decoupling for Multivariable Control System Design," *in Proc. American Control Conference*, pp. 3112-3117, St. Louis, MO, Jun. 2009.

2. Meisami-Azad, M., Mohammadpour, J., and Grigoriadis, K. M., "Upper Bound Mixed H_2/H_infty Control and Integrated Design for Collocated Structural Systems," *in Proc. American Control Conference*, pp. 4563-4568, St. Louis, MO, Jun. 2009 (invited paper).

3. Meisami-Azad, M. and Grigoriadis, K. M., "Explicit Solutions for Stabilization and Control of Time-Delayed State-Space Symmetric Systems," *in Proc. 47th IEEE Conference on Decision and Control*, pp. 4152-4157, Cancun, Mexico, Dec. 2008.

4. Mohammadpour-Velni, J., Meisami-Azad, M. and Grigoriadis, K. M. "A New Approach to Integrated Damping Parameter and Control Design in Structural Systems," *in Proc. 47th IEEE Conference on Decision and Control*, pp. 5456-5461, Cancun, Mexico, Dec. 2008.

5. Mohammadpour-Velni, J. and Grigoriadis, K. M. "Robust Fault Tolerant LPV Control Design for Systems under Actuator Failures," *in Proc. AIAA Guidance, Navigation and Control Conference*, Honolulu, HI, Aug. 2008.

6. Meisami-Azad, M., Mohammadpour-Velni, J. and Grigoriadis, K. M. "Observer-Type Hinf Filter Design for Structural Systems," *in Proc. AIAA Guidance, Navigation and Control Conference*, Honolulu, HI, Aug. 2008.

7. Mohammadpour-Velni, J., K. M. Grigoriadis, M. A. Franchek, and B. J. Zwissler, "Real-Time Diagnostics in the EGR System of Diesel Engines," *in Proc. American Control Conference*, pp. 1002-1007, Seattle, WA, Jun. 2008 (invited paper).

8. Meisami-Azad, M., Mohammadpour-Velni, J. and Grigoriadis, K. M. "Dissipative Control of State-space Symmetric Systems," *in Proc. American Control Conference*, pp. 413-418, Seattle, WA, Jun. 2008.

9. Mohammadpour-Velni, J.[†] and Grigoriadis, K.M., "Stability and Performance Analysis of Time Delayed Linear Parameter Varying Systems with Brief Instability," *Proeedings of the 46th Conf. Decision and Control,* New Orleans, Dec. 2007.

10. Dawson, B. M., Franchek, M. A., Grigoriadis, K. M., ``Data Driven Simplified Three Way Catalyst Health Diagnostic Models: Experimental Results,'' *Proceedings of the ASME Dynamic Systems and Control Division 2007,* Paper Number *IMECE2007-42281*, Seattle, Washington, November 11-15, 2007.

11. Mohammadpour-Velni, J. , Meisami-Azad, M., and Grigoriadis, K.M.[†], "An Efficient Approach for Integrated Design of Damping Parameters and Feedback Controllers: H_2 Perspective," *Proceedings of the 3rd IFAC Symposium on System, Structure and Control, Foz do Iguacu*, Brazil, Oct. 2007 (Invited)

12. Kilicarslan,A., Song,G., and Grigoriadis,K.M., " ANFIS Based Modeling and Control of a Thin SMA Wire,"*Proceedings of the 44th Annual Technical Meeting of the Society of Engineering Science,* Collage Station, Texas, Oct. 2007.

13. Meisami-Azad, M., Mohammadpour-Velni, J., and Grigoriadis, K.M.[†], "Robust L_2/L_∞ Filtering of Affine Uncertain Systems," *Proceedings of the European Control Conference*, Kos, Greece, pp. 2755-2761, Jul. 2007.

14. Meisami-Azad, M.[†], Mohammadpour-Velni, J., and Grigoriadis, K.M., "An H_2 Upper Bound Approach for Control of Collocated Structural Systems," *Proceedings of the 26th American Control Conference*, New York City, NY, Jul. 2007.

15. Potami, R., Demetriou, M.A., and Grigoriadis, K.M., "Actuator switching for vibration control of spatially distributed systems", *Proceedings of the 2007 American Control Conference*, New York City, NY, pp. 4981-4986, Jul. 2007.

16. Li, Z., Zolotas, A, Jaimoukha, I, Grigoriadis, K.M., and Pearson, J., "Output Selection Under Control and Fault Detectability," *Proceedings of the 15th Meditteranean Conference on Control and Automation*, Athens, Greece, June 2007.

17. Mohammadpour-Velni, J.[†], Meisami-Azad, M., and Grigoriadis, K.M., "An Efficient Approach for Damping Parameter Design in Collocated Structural Systems Using an H_2 Upper Bound," *Proceedings of the 26th American Control Conference*, New York City, NY, Jul. 2007.

18. Meisami-Azad, M., Mohammadpour-Velni, J.[†], and Grigoriadis, K.M., "Energy-to-Peak Induced Norm Upper Bound Control Approach for Collocated Structural Systems," *Proceedings of the 14th SPIE Annual International Symposium on Smart Structures and Materials*, San Diego, CA, Mar. 2007.

19. Meisami-Azad, M. [†], Grigoriadis, K.M., and Demetriou, M.A., "Control and integrated design of smart material systems using analytical upper bound method," *Proceedings of the 14th SPIE Annual International Symposium on Smart Structures and Materials*, San Diego, CA, Mar. 2007.

20. Demetriou, M., and Grigoriadis, K.M, "Utilizing Spatial Robustness Measures for the Optimization of a PZT-actiuated Flexible Beam, *Proceedings of the 14th SPIE Annual International Symposium on Smart Structures and Materials*, San Diego, CA, Mar. 2007.

21. Bai, Y., Grigoriadis, K. M., and Song, G.., "Active Fault Tolerant Control of a Flexible Beam," *Proceedings of the 14th SPIE Annual International Symposium on Smart Structures and Materials*, San Diego, CA, Mar. 2007.

22. Mohammadpour-Velni, J. [†], and Grigoriadis, K. M., "Rate-Dependent Mixed H_2/H_∞ Filtering for Time Varying State Delayed LPV Systems," *Proceedings of the 45th IEEE Conference on Decision and Control, San Diego*, CA, pp. 3168-3173, Dec. 2006.

23. Mohammadpour-Velni, J. [†], Grigoriadis, K.M., Franchek, M.A., and Zwissler, B.J., "A Survey on Prognosis Research: Theory and Applications," *Proceedings of the ASME International Mechanical Engineering Congress and Exposition*, Paper IMECE2006-15044, Chicago, IL, Nov. 2006.

24. Mohammadpour-Velni, J., and Grigoriadis, K.M. [†], "Delay-Dependent H_∞ Filtering for a Class of Time-Delayed LPV Systems," *Proceedings of the 25th American Control Conference*, Minneapolis, MN, pp. 1523-1528, Jun. 2006.

25. Bai, Y. [†], Grigoriadis, K. M., and Demetriou, M. A., "Damping Parameter Design in Flexible Systems Using Analytical Bound Approach," *Proceedings of the 45th IEEE Conference on Decision and Control*, San Diego, California, pp. 3537-3542, 2006.

26. Bai, Y. [†], and Grigoriadis, K. M., "H_∞ Model Reduction of Symmetric Systems Using LMIs," *Proceedings of the 45th IEEE Conference on Decision and Control*, San Diego, California, pp. 3412-3417, 2006.

27. Mohammadpour Velni, J., and Grigoriadis, K. M. [†], "Rate-Dependent Mixed H_2/H_∞ Filtering for Time Varying State Delayed LPV Systems," *Proceedings of the 45th IEEE Conference on Decision and Control*, San Diego, California, pp. 3168-3173, 2006.

28. Mohammadpour Velni, J. [†], Grigoriadis, K. M., Franchek, M. A., and Zwissler, B. J., "A Survey on Prognosis Research: Theory and Applications," *Proceedings of ASME International Mechanical Engineering Congress & Exposition*, Chicago, IL, Nov. 2006.

29. Franco, J., Franchek, M. A. [†], and Grigoriadis, K. M., "Real Time Estimation of Engine Torque Using Speed Wheel Information," *Proceedings of the ASME International Mechanical Engineering Congress and Exposition*, Chicago, Illinois, Nov. 2006.

30. Bai, Y., Grigoriadis, K. M., and Sethi, V., "Static Output Feedback H_∞ Control of Collocated Structural Systems," *2006 American Control Conference*, Minneapolis, Minnesota, pp. 828-833, 2006.

31. Zhang, F., Grigoriadis, K. M., Franchek, M. A., and Makki, I., "Transient Lean Burn Air-fuel Ratio Control Using an Input Shaping Method Combined with Linear Parameter-

Varying Control," *2006 American Control Conference*, Minneapolis, Minnesota, pp. 3290-3295, 2006.

32. Mohammadpour Velni, J., and Grigoriadis, K. M. [†], "Delay-Dependent H_∞ Filtering for a Class of Time-Delayed LPV Systems," *2006 American Control Conference*, Minneapolis, Minnesota, pp. 1523-1528, 2006.

33. Mehendale, C., and Grigoriadis, K. M., "Performance of LPV Gain-scheduled Systems," *2006 American Control Conference*, Minneapolis, Minnesota, pp. 2915-2920, 2006.

34. Zhang, F., Grigoriadis, K.M. [†], Franchek, M., and Makki, I., "Linear Parameter Varying Lean Burn Air Fuel Ratio Engine Control," *Proceedings of the Joint 44th IEEE Conference on Decision and Control & 2005 European Control Conference*, Seville, Spain, pp. 2688-2696, 2005.

35. Sweeney, R., Demetriou, M. A.[†], and Grigoriadis, K. M., "H_∞ Control of a Piezo-actuated Flexible Beam," *Proceedings of the 2005 American Control Conference*, Portland, Oregon, 2005.

36. Hiramoto, K. [†], and Grigoriadis, K. M., "Integrated Design of Structural and Control Systems with a Homotopy Like Iterative Method," *Proceedings of the 2005 American Control Conference*, Portland, Oregon, 2005.

37. Sweeney, R., Demetriou, M. A.[†], and Grigoriadis, K. M., "H_∞ Control of a Piezo-actuated Flexible Beam using an Analytical Bound Approach," *Proceedings of the 2005 American Control Conference*, Portland, Oregon, pp. 2505-2509, 2005.

38. Zhang, F., and Grigoriadis, K. M. [†], "Delay-dependent Stability Analysis and H_∞ Control for State-delayed LPV systems," *Proceedings of the Joint 2005 International Symposium on Intelligent Control & 13th Mediterranean Conference on Control and Automation*, pp. 1532-1537, Limassol, Cyprus, 2005.

39. Sweeney, R., Demetriou, M. A. [†], and Grigoriadis, K. M., "Experimental Verification of an Analytical Bound H_∞ Collocated Control Approach," *Proceedings of the 12th SPIE Annual International Symposium on Smart Structures and Materials*, San Diego, March 6-10, 2005.

40. Mohammadpour Velni, J., and Grigoriadis, K. M. [†], "Delay-Dependent H_∞ Filtering for State-delayed LPV Systems," *Proceedings of the Joint 2005 International Symposium on Intelligent Control & 13th Mediterranean Conference on Control and Automation*, pp. 1538-1543, Limassol, Cyprus, 2005.

41. Sweeney, R., Demetriou, M. A. [†], and Grigoriadis, K. M., "H_∞ Control of a Force-Actuated Flexible Beam using an Analytical Bound Approach and Non-Collocated Disturbance," *Proceedings of the Joint 2005 International Symposium on Intelligent Control & 13th Mediterranean Conference on Control and Automation*, pp. 1019-1022, Limassol, Cyprus, 2005.

42. Hall, R., and Grigoriadis, K.M., "Shuttle Stability and Control Using the Orbiter Repair Maneuver, Proceedings of the 2005 AIAA Guidance, *Navigation and Control Conference, San Francisco*, CA, pp. 375-387, 2005

43. Mehendale, C., and Grigoriadis, K. M. [†], "Control of Time-delayed LPV Systems Using Delayed Feedback, *Proceedings of the 2005 International Federation of Automatic Control World Congress, Prague*, Czech Republic, 2005.

44. Hiramoto, K. [†], and Grigoriadis, K. M., "Upper bound H_∞ and H_2 control for Symmetric Mechanical Systems," *Proceedings of the 2005 International Federation of Automatic Control World Congress*, Prague, Czech Republic, 2005.

45. Mohammadpour Velni, J. [†,] and Grigoriadis, K. M., "Delay-Dependent H_∞ Filtering for Delayed LPV Systems Based on Lyapunov-Razumikhin Theory," *Proceedings of 6th SIAM Conference on Control and its Applications*, New Orleans, Louisiana, 2005.

46. Mohammadpour Velni, J. [†], and Grigoriadis, K. M., ``Design of the Delay-Dependent L_2-Gain Filters for a General Class of LPV Time-Delayed Systems," *Proceedings of the IEEE International Conference on Systems, Man and Cybernetics (SMC)*, Waikoloa, Hawaii, 2005.

47. Bai, Y. [†], and Grigoriadis, K. M., "H-Infinity Collocated Control of Structural Systems: An Analytical Bound Approach," *Proceedings of the 2004 American Control Conference*, Boston, Massachusetts, pp. 2081-2086, June 2004.

48. Grigoriadis, K. M. [†,] and Demetriou, M., :"Collocated Actuator Placement in Structural Systems," *Proceedings of the 2004 American Control Conference*, Boston, Massachusetts, pp. 1603-1609, June 2004.

49. Mehendale, C. [†], and Grigoriadis, K. M., "Hysteresis Compensation Using Linear Parameter Varying Methods," *Proceedings of the 2004 American Control Conference*, Boston, Massachusetts, pp. 1380-1386, June 2004.

50. Zhang, F., and Grigoriadis, K. M. [†], "Linear Parameter Varying Control of State-Delayed Systems," *Proceedings of the 2004 IASTED International Conference on Intelligent Systems and Control*, Rio de Janeiro Brazil, pp. 912-919, October 2004.

51. Charudatta, M. [†] and Grigoriadis, K. M., "Hysteresis Compensation in Smart Structures Using Linear Parameter Varying Control, *Proceedings of the 2004 ASCE Earth and Space International Conference*. League City, Texas, pp. 672-679, March 2004.

52. Mehendale, C., and Grigoriadis, K. M. [†], "A New Approach to LPV Design and Implementation," *Proceedings of the 43rd IEEE Conference on Decision and Control,* Atlantis Paradise Island, The Bahamas, pp. 2942-2948, December 2004.

53. Zhang, F., and Grigoriadis, K. M. [†], "Active Microgravity Isolation Using Linear Parameter-Varying Techniques," *Proceedings of the 2003 IASTED International Conference on Intelligent Systems and Control*, Salzburg, Austria, 2003.

54. Mehendale, C. [†], and Grigoriadis, K. M, "A Double Homotopy Method for Decentralized Controller Design," *Proceedings of the 2003 American Control Conference*, Denver, Colorado, 2003.[1]

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[1] Received a Session Best Paper Presentation Award

55. Mehendale, C. [†], Fialho, I., and Grigoriadis, K. M, "Adaptive Active Microgravity Isolation Using LPV Gain-scheduling Methods," *Proceedings of the 2003 American Control Conference*, Denver, Colorado, 2003.

56. Song, Q., and Grigoriadis, K. M.[†], "Diesel Engine Speed Regulation Using Linear Parameter Varying Control," *Proceedings of the 2003 American Control Conference*, Denver, Colorado, 2003.

57. Chandra, R., Fialho, I., and Grigoriadis, K. M.[†] "Linear Parameter-varying Control of Hysteresis for Active Microgravity Isolation," *Proceedings of the 2002 American Control Conference*, Anchorage, Alaska, 2002.

58. Song, Q., and Grigoriadis, K. M.[†], "Diesel Engine Control Using Advanced LPV Techniques," *Proceedings of the 2002 IASTED International Conference on Control and Applications*, Cancun, Mexico, 2002.

59. Tan, K., and Grigoriadis, K. M.[†], "Stabilization and Control of Continuous-Time Symmetric Systems," *Proceedings of the 40th IEEE Conference on Decision and Control*, Orlando, Florida, 2001.

60. Tan, K., and Grigoriadis, K. M.[†], "Analysis and Control of Discrete-Time Symmetric Systems," *Proceedings of the 2001 European Control Conference*, Porto, Portugal, 2001.

61. Abdalla, M., Nobrega, E., and Grigoriadis, K. M.[†], "Fault Detection and Isolation Filter Design for Linear Parameter Varying Systems," *Proceedings of the 2001 American Control Conference*, Washington, D.C., 2001.

62. Nobrega, E., Abdalla, M., and Grigoriadis, K. M.[†], "LMI-Based Filter Design for Fault Detection and Isolation," *Proceedings of the 39th IEEE Conference on Decision and Control*, Sydney, Australia, 2000.

63. Tan, K.[†], and Grigoriadis, K. M., "L_2-L_2 and L_2-L_∞ Output Feedback Control of Time-Delayed LPV Systems," *Proceedings of the 39th IEEE Conference on Decision and Control*, Sydney, Australia, 2000.

64. Tan, K., and Grigoriadis, K. M.[†], "Robust Decentralized Control Using an Alternating Projection Approach," *Proceedings of the 2000 American Control Conference*, Chicago. Illinois, 2000.

65. Abdalla, M., Zimmerman, D. C., and Grigoriadis, K. M.[†], "Reduced Parameter Update in Structural Systems Using LMIs," *Proceedings of the 2000 American Control Conference*, Chicago. Illinois, 2000.

66. Tan, K.[†], and Grigoriadis, K. M., "Output Feedback Control of LPV Sampled-Data Systems," *Proceedings of the 2000 American Control Conference*, Chicago. Illinois, 2000.

67. Nobrega, E.[†], Alves, M. A., and Grigoriadis, K. M. "Neural Fault Detection of an Adaptive Control Beam, *Proceedings of the 2000 American Control Conference*, Chicago. Illinois, 2000.

68. Abdalla, M., Nobrega, E., and Grigoriadis, K. M.[†], "LMI-Based Filter Design for Fault Detection and Isolation Using a Reference Model," *Proceedings of the 2000 IASTED International Conference on Intelligent Systems and Control*, Honolulu, Hawaii, 2000.

69. Saputelli, L., B. Cherian, K. Grigoriadis, M. Nikolaou, C. Oudinot, G. Reddy, M. J. Economides, and C. Ehlig-Economides, "Integration of Computer-Aided High-Intensity Design with Reservoir Exploitation of Remote and Offshore Locations", *International Conference of the Society of Petroleum Engineers,* Beijing, China, 2000.

70. Tan, K., and Grigoriadis, K. M.[†], "State Feedback Control of LPV Systems with Parameter Dependent Delays," *Proceedings of the 2000 IASTED International Conference on Control and Applications*, Cancun, Mexico, 2000.

71. Tan, K.[†], and Grigoriadis, K. M., "State Feedback Control of LPV Sampled-Data Systems," *Proceedings of the 38th IEEE Conference on Decision and Control*, Phoenix, Arizona, 1999.

72. Sidi-Ali-Cherif, S., Grigoriadis, K.M.[†], and Subramaniam, M, "Model Reduction of Large Scale Systems Using Approximate Component Cost Analysis," *Proceedings of the 1999 American Control Conference*, San Diego, California, 1999

73. Wu, F., and Grigoriadis, K. M.[†], "LPV-Based Control of Systems with Amplitude and Rate Actuator Saturation Constraints," *Proceedings of the 1999 American Control Conference*, San Diego, California, 1999

74. Abdalla, M., Zimmerman, D. C., and Grigoriadis, K. M.[†], "Structural Damage Detection Using Strain Data via Linear Matrix Inequality Based Methods," *Proceedings of the 1999 American Control Conference*, San Diego, California, 1999.

75. Abdalla, M., Grigoriadis, K. M. [†], and Zimmerman, D. C., "Parameter Estimation and Damage Detection Using Linear Matrix Inequality Methods," *Proceedings of the 14th International Federation of Automatic Control World Congress*, Beijing, China, 1999.

76. Abdalla, M., Grigoriadis, K. M., and Zimmerman, D. C, "Experimental Validation of the LMI Methods for Structural Damage Detection," *Proc. SEM International Modal Analysis Conference*, Orlando, Florida, 1999.

77. Kwan, A., Bedrossian, N.[†], and Grigoriadis, K.M., "Reducing Conservatism of Analytic Transient Response Bounds via Shaping Filters," *Proceedings of the AAS/AIAA Spacecraft Dynamics and Control Conference*, Anchorage, Alaska, 1999.

78. Grigoriadis, K. M.[†], "Integrated Structural and Control Design via LMIs," *Proceedings of the IEEE International Conference on Computer Aided Control Systems Design*, Kona, Hawaii, 1999.

79. Abdalla, M., Grigoriadis, K. M., and Zimmerman, D. C[†]., "Experimental Validation of the LMI Methods for Structural Damage Detection," *Proc. SEM International Modal Analysis Conference*, Orlando, Florida, 1999.

80. Grigoriadis, K. M.[†], "Integrated Structural and Control Design Using Finite Signal-to-noise Models," *Proceedings of the 1998 American Control Conference*, Philadelphia, Pennsylvania, 1998.

81. Wu, F., Grigoriadis, K. M.[†], and Packard, A., "Anti-windup Control using a Linear Parameter-Varying Formulation," *Proceedings of the 1998 American Control Conference*, Philadelphia, Pennsylvania, 1998. [2]

82. Abdallah, M., Grigoriadis, K. M., and Zimmerman, D. [†], "Enhanced Damage Detection Using Linear Matrix Inequality Methods," *Proc. SEM International Modal Analysis Conference*, Santa Barbara, California, 1998.

83. Grigoriadis, K. M.[†] and F. Wu, "Integrated H_∞ Plant/Control Design via Linear Matrix Inequalities," *Proceedings of the 36th IEEE Conference Decision and Control*, San Diego, California, 1997.

84. Wu, F. and Grigoriadis, K. M. [†], "LPV Systems with Parameter Varying Time-Delays," *Proc. 36th IEEE Conference Dec. Control*, San Diego, California 1997.

85. Watson, J., and Grigoriadis, K. M.[†], "Optimal Unbiased Filtering via Linear Matrix Inequalities," *Proc. 1997 American Control Conference*, Albuquerque, New Mexico, 1997.

86. Beran, E., and Grigoriadis, K. M. [†], "Computational Issues in the Alternating Projection Approach for Fixed-Order Control Design," *Proc. 1997 American Control Conference*, Albuquerque, New Mexico, 1997.

87. Abdallah, M., Grigoriadis, K. M. [†], and Zimmerman, D., "Enhanced Damage Detection Using Alternating Projections," *Proc. SEM International Modal Analysis Conference*, Orlando, Florida, 1997.

88. Hassiotis, S., and Grigoriadis, K.M, "Damage detection in structures using impulse response moments and natural frequencies," *Proceedings of the SEM International Modal Analysis Conference*, Orlando, Florida, 1997.

89. Grigoriadis, K. M. [†], and Mayzus, A., "Robust Integrated Structural and Control Design for Vector Second-Order Systems via LMIs," *Proc. SEM International Modal Analysis Conference*, Orlando, Florida, 1997.

90. Grigoriadis, K. M. [†], " L_2 and L_2-L_∞ Model Reduction via Linear Matrix Inequalities," *Proc. 35th IEEE Conf. Decision Control*, Kobe, Japan, 1996.

91. Hassiotis, S. and Grigoriadis, K. M., "Identification of Structural Damage," *Proceedings of the 1996 ASCE Structures Congress*, Chicago, Illinois, 1996.

92. Grigoriadis, K., M.[†], "Solution of Mixed H_2/H_∞/l_∞ Control Problems Using FFTs and Alternating Projections," *33rd Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, November 1996.

93. Shi, G., Skelton, R. E., and Grigoriadis, K. M. [†], "An Algorithm to Integrate Passive and Active Control for Automotive Suspensions," *Proc. IEEE International Symposium on Computer Aided Control Systems Design*, Dearborn, Michigan, 1996.

94. Grigoriadis, K. M. [†], and Watson, J., "Optimal H_∞ Model Reduction via Linear Matrix Inequalities," *Proc. 13th IFAC World Congress*, San Francisco, California, 1996.

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[2] Received a Session Best Paper Presentation Award

95. Beran, E., and Grigoriadis, K. M. [†], "A Combined Alternating Projections and Semidefinite Programming Algorithm for Fixed-Order Control Design," *Proc. 13th IFAC World Congress*, San Francisco, California, 1996.

96. Grigoriadis, K. M. [†], "Suboptimal H_∞ Filtering via Linear Matrix Inequalities," *Proc. 34th IEEE Conference on Decision and Control*, New Orleans, Louisiana, 1996.

97. Grigoriadis, K. M. [†], and Skelton, R. E., "Fixed-order Control Design for LMI Control Problems Using Alternating Projection Methods," *Proc. 33rd IEEE Conf. Decision Control*, Orlando, Florida, 1994.

98. Grigoriadis, K. M. [†], and Skelton, R. E., "Integrated Design for Intelligent Structures," *Proc. 1994 International Conf. on Intelligent Materials*, Williamsburg, Virginia, 1994.

99. Zhu, G., Grigoriadis, K. M. [†], and Skelton, R. E., "Optimal Finite Wordlength Digital Control with Skewed Sampling," *Proc. 1994 American Control Conference*, Baltimore, Maryland, 1994.

100. Skelton, R. E. [†], Grigoriadis, K. M., and Zhu, G., "An Algorithm for Iterative Identification and Control Design Using and Improved Q-Markov COVER Techniques," *Proc. 10th IFAC Symposium on System Identification*, Copenhagen, Denmark, 1994.

101. Grigoriadis, K. M. [†], and Skelton, R. E., "Minimum Energy Covariance Controllers," *Proc. 32nd IEEE Conference on Decision and Control*, San Antonio, Texas, 1993.

102. Grigoriadis, K. M. [†], Skelton, R. E., and Frazho, A. E., "Alternating Convex Projection Methods for Discrete-Time Covariance Control Design," *Proc. 32nd IEEE Conf. Decision Control*, San Antonio, Texas, 1993.

103. Frazho, A. E., Grigoriadis, K. M[†], and Kherat S., "Alternating Projection Methods for Mixed H_2 and H_∞ Nehari Problems," *Proc. 31st Annual Allerton Conf. on Communication, Control and Computing*, Monticello, Illinois, 1993

104. Yaz, E., Skelton, R. E., and Grigoriadis, K. M. [†], "Robust Regional Pole Placement with Output Feedback," *Proc. 32rd IEEE Conf. Decision Control*, San Antonio, Texas, 1993.

105. Yaz, E., Grigoriadis, K. M., and Skelton, R. E. [†], "Multicriteria Satisfaction in Control Systems via Linear Matrix Equations," *Proc. 12th IFAC World Congress*, Sydney, Australia, 1993.

106. Williamson, D., Grigoriadis, K.M., and Skelton, R.E. [†], "Finite Wordlength Control of Sampled-Data Systems by Covariance Assignment," *Proc. 12th IFAC World Congress*, Sydney, Australia, 1993.

107. Grigoriadis, K. M. [†], Carpenter, M., Zhu, G., and Skelton, R.E., "Optimal Redesign for Linear Systems," *Proc. 1993 American Control Conference*, San Francisco, California, 1993. [3]

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[3] Received a Session Best Paper Presentation Award

108.   Zhu, G., Grigoriadis, K. M., and Skelton, R. E. [†], "Covariance Control Design for The Hubble Space Telescope," *Proc. 16th Annual AAS Guidance Control Conf.*, Keystone, Colorado, 1993.

109.   Yaz, E., Grigoriadis, K. M. [†], and Skelton, R. E., "Discrete-Time H_2/H_∞ Norm-Bounding Control and Estimation," *Proc. 31st IEEE Conference on Decision and Control*, Tucson, Arizona, 1992.

110.   Grigoriadis, K. M. [†], and Skelton, R. E., "Alternating Projection Methods for Covariance Control," *Proc. 30th Annual Allerton Conf. on Communication, Control and Computing*, Monticello, Illinois, 1992 .

111.   Grigoriadis, K. M. [†], Yaz, E., and Skelton, R. E., "Robust Stabilization of Interval Plants by State Space Methods," *Proc. 30th Annual Allerton Conference on Communication, Control and Computing*, Monticello, Illinois, 1992

112.   Grigoriadis, K. M. [†], Williamsom, D., and Skelton, R. E., "Optimal Finite Wordlength Digital Control with Skewed Sampling and Coefficient Quantization," *Proc. 1992 American Control Conference*, Chicago, Illinois, 1992.

113.   Grigoriadis, K. M., Liu, K., Skelton, R. E. [†], "Optimizing Linear Controllers for Finite Wordlength Precision Synthesis using Additive Quantization Models," *Proc. International Symposium MTNS*, Kobe, Japan, 1991.

114.   Smith, M. J., Grigoriadis, K. M. [†], and Skelton, R. E., "The Optimal Mix of Active and Passive Control in Structures," *Proc. 1991 American Control Conference*, Boston, Massachusetts, 1991.[4]

INVITED PRESENTATIONS

Invited Seminars and Lectures

1. *From Covariance Control to Integrated Systems Design*, Workshop in Honor of Prof. R.E. Skelton, UCSD, Nov. 2008.

2. *Adaptive Methods for Microgravity Isolation in Space*, Worcester Polytechnic Institute, Department of Mechanical Engineering, March 2008.

3. *Invited Plenary Speaker*, 6th International Congress of Mechatronics Engineering, Monterrey, Mexico, March 2008.

4. Invited Speaker, 5th International Congress of Mechatronics Engineering, Monterrey, Mexico, March 2007.

5. *Adaptive Gain Scheduling Control Methods for Internal Combustion Engines*, General Motors, October 2006.

6. Invited Speaker, Workshop on New Directions for the Modeling and Control of Complex Systems, Agia Napa, Cyprus, June 2005.

7. *Linear Parameter Varying Control of Complex Systems*, Workshop on New Directions for the Modeling and Control of Complex Systems, Agia Napa, Cyprus, Jun. 2005.

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[4] Received a Session Best Paper Presentation Award

8. *Control of Time-delayed and Input-Constrained Systems Using Parameter-Varying Adaptive Control*, National Technical University of Cyprus, June 2005.

9. *Linear Parameter-Varying Control with Application to Engine Control Problems*, Worcester Polytechnic Institute, Department of Mechanical Engineering, Graduate Seminar, April 2005.

10. *Linear Parameter-Varying Lean Burn Air-Fuel Ratio Control*, Ford Motor Company, Apr.. 2005.

11. *Multiobjective Gain Scheduled Control with Application to Engines*, Ford Motor Company, October 2004.

12. *Linear Parameter Varying Control of Complex Systems and Applications to Engine Control Problems*, Ford Motor Company, Feb. 2004

13. *Linear Parameter Varying Control of Complex Systems and Applications to Engine Control Problems*, Cummins Engine Company, July 2004.

14. *Parameter Varying Control for Active Microgravity Isolation*, AIAA-Houston Lunch and Learn Seminar Series, Houston, Texas, September 2003.

15. *Engine Control Using Parameter Dependent Methods*, Department of Mechanical Engineering, Texas A&M University, College Station, Texas, October 2001.

16. *Control of Parameter Dependent Sampled Data Systems*, Department of Aerospace Engineering, Georgia Institute of Technology, Atlanta, Georgia, March 2001.

17. *Optimization-Based Methods for Engine Control*, Cummins Engine Company, Columbus, Indiana, February 2001.

18. *Linear Matrix Inequality Optimization with Rank Constraints for Fixed-Structure Control*, University of Montreal, Montreal, Canada, May 2000.

19. *Parameter Varying Control and Its Applications to Engine Control*, Cummins Engine Company, Columbus, Indiana, February 1999

20. *Integration of Research and Education in Control Systems*, NSF Workshop on the Integration of Engineering Research and Education, Arlington, Virginia, April, 1999.

21. *Control of Time Delayed Systems Using Linear Matrix Inequalities*, International Summer School on LMI Methods in Identification, Optimization and Control, University of Compiegne, Compiegne, France, May 1999.

22. *Fixed-Order Control Design using Projection Methods*, International Summer School on LMI Methods in Identification, Optimization and Control, University of Compiegne, Compiegne, France, May 1999.

23. International Summer School on LMI Methods in Identification, Optimization and Control, University of Compiegne, Compiegne, France, May 1999.

24. *Control of Constrained Systems Using Linear Matrix Inequa*lities, Department of Mechanical Engineering, University of Michigan, Ann Arbor, Michigan, October 1999.

25. *Control of Constrained Systems*, Department of Mechanical Engineering, Rice University, Houston, Texas, November 1999

26. *Control of Time-Delayed and Input Constrained Systems*, Department of Electrical Engineering, Rice University, Houston, April 1998.

27. *Alternating Projection Algorithms and Linear Matrix Inequalities n Control Systems Analysis and Design*, Department of Aerospace Engineering, Texas A&M University, College Station, Texas, February 1998.

28. *Multiobjective and Integrated Control via Linear Matrix Inequalities*, Department of Automation, Technical University of Denmark, Lyngby, Denmark, May 1997.

29. *Alternating Projection Algorithms and Linear Matrix Inequalities for Multiobjective Control*, Department of Mechanical, Aerospace and Nuclear Engineering, University of Virginia, Charlottesville, February 1997.

30. *Alternating Projection Algorithms and Linear Matrix Inequalities for Multiobjective Control Design*, Department of Mechanical Engineering, Texas A&M University, College Station, Texas, October 1996.

31. *Control Design via Alternating Projections*, Hughes Aircraft Company, El Segundo, California, February 1996.

32. *Techniques for Multiobjective and Integrated Control Systems Design*, Graduate Seminar, Department of Mechanical Engineering, University of Houston, Houston, Texas, October 1994.

33. *Integrated Structural and Control Design by Iterative Redesign*, Guidance, Navigation and Flight Control Lunch and Learn Meeting, NASA JSC, Houston, Texas, October 1994.

Invited Conference Presentations

1. "An Efficient Approach for Integrated Design of Damping Parameters and Feedback Controllers," *3rd IFAC Symposium on System, Structure and Control,* Foz do Iguacu, Brazil, Oct. 2007.

2. "Delay-dependent Stability Analysis and H$_\infty$ Control for State-delayed LPV systems," Joint 2005 International Symposium on Intelligent Control & 13th Mediterranean Conference on Control and Automation, Limassol, Cyprus, 2005

3. "Analysis and Control of Discrete-Time Symmetric Systems," 2001 European Control Conference, Porto, Portugal, 2001.

4. "Alternating Projection Algorithms for Linear Matrix Inequality Problems with Rank Constraints," Optimization Days 2001, University of Montreal, Canada, 2001.

5. "Reduced Parameter Update in Structural Systems Using LMIs," Proceedings of the 2000 American Control Conference, Chicago. Illinois, 2000.

6. "LPV-Based Control of Systems with Amplitude and Rate Actuator Saturation Constraints," 1999 American Control Conference, San Diego, California, 1999.

7. "Structural Damage Detection Using Strain Data via Linear Matrix Inequality Based Methods," 1999 American Control Conference, San Diego, California, 1999

8. "Integrated Structural and Control Design via LMIs," IEEE International Conference on Computer Aided Control Systems Design, Kona, Hawaii, 1999.

9. "Linear Parameter varying Control of Sampled-Data Systems with Variable Sampling Rates," Texas Systems Day Conference, College Station, Texas, 1999.

10. "Integrated Design of Controlled Structural Systems," ASCE Engineering Mechanics Conf., San Diego, California, May 1998.

11. "Control of Time-Delayed and Input-Constrained Systems," 1997 Texas Systems Day Conf., Houston, Texas, October 1997.

12. "Computational Issues in the Alternating Projection Approach for Fixed-Order Control Design," Proc. 1997 Amer. Control Conf., Albuquerque, New Mexico, June 1997.

13. "Solution of Mixed $H_2/H_\infty/l_\infty$ Control Problems Using FFTs and Alternating Projections," 33rd Annual Allerton Conf. on Communication, Control and Computing, Monticello, Illinois, November 1996.

14. "Integrated Structural and Control Design via Iterative Redesign," 1996 Texas Systems Day Conf., Dallas, Texas, October 1996.

15. "Solution of Multiobjective Control Problems Using FFTs and Alternating Projections," 1995 Texas Systems Day Conf., Dallas, Texas, October 1995.

16. "Alternating Projection Techniques for Control Design," 1994 Texas Systems Day Conference, College Station, Texas, October 1994.

17. "Optimal Finite Wordlength Digital Control with Skewed Sampling and Coefficient Quantization," Proc. 1992 Amer. Control Conf., Chicago, Illinois, June 1992.

SPONSORED RESEARCH PROJECTS

1. Adaptive Aftertreatment control for Low Emissions with Ethanol-based Fuels, Ford Motor Company, $120,000 (PI: Grigoriadis, Co-PI: Franchek & Balakotaiah), Jan. 2008 – Dec. 2010,

2. Integrated Engine and Aftertreatment Modeling and Control, Ford Motor Company, $200,000 (PI: Franchek, Co-PI: Grigoriadis, Balakotaiah & Harold), Jan. 2008 – Dec. 2009.

3. A Systems Approach to Ultra-Clean and Ultra-Efficient Internal Combustion Engines, National Science Foundation, $243,613, (PI: Franchek, Co-PI: Grigoriadis & Balakotaiah), Sept. 2007 – Aug. 2010.

4. **International Research and Education in Engineering**: Hysteresis Compensation Using Parameter Varying Control Methods, National Science Foundation, $31,800 (PI: Grigoriadis, Co-PI: Song), Sept. 2007 – Aug. 2008

5. **Educational Award:** Scholarships for the Accelerated B.S. to Graduate (FastGrad) Degree in Engineering, National Science Foundation, $598,000 (PI: Grigoriadis, Co-PI: Franchek, Harold & Parsei), Sept. 2007 – Aug. 2012.

6. **International Research Collaboration:** Optimised Configuration of Sensing Elements for Control and Fault Tolerance, Engineering and Physical Sciences Research Council, UK, £198,588 (PI: Zolota, Loughborough University UK, Visiting Academic Collaborator: Grigoriadis), Sept. 2007-Aug. 2010.

7. MIMO Air Handling Control Using LPV Methods, General Motors, $135,000 (PI: Grigoriadis, Co-PI: Franchek), July 2007 – Dec. 2008.

8. **Educational and Outreach Award:** Aerospace Workforce Innovation Network (AWIN), Texas Workforce Commission, (PI: Grigoriadis, Co-PI: 6 faculty from MECE), $248,361 Sept. 2007 – Aug. 2009

9. Diesel Engine Diagnostics and Control, Cummins Engine Company, $120,000, (PI: Franchek, Co-PI: Grigoriadis), Jan 2007 – Dec. 2009.

10. Hysteresis Compensation Using Linear Parameter Varying Control Methods, National Science Foundation, $263,007 (PI: Grigoriadis 70%, Co-PI: Song), Sept. 2006 – Aug. 2009

11. Robust Self-Scheduled Control for Engine Efficiency, Reliability and Performance Optimization, Army Research Office, $376,880 (PI: Grigoriadis 50%, Co-PI: Franchek), Sept. 2006 – Aug. 2009.

12. **Equipment Award:** Acquisition of an Internal Combustion Engine NO/NOx Analyzer, Army Research Office, $75,000 (PI: Grigoriadis 50%, Co-PI: Franchek), July 2006 – June 2007.

13. Multivariable Air-Fuel Ratio Engine Control Subject to Variable Time Delays, Ford Motor Company, $40,000 (PI: 50%, Co-PI: Grigoriadis), Jan 2007- Dec. 2007

14. Three Way Catalyst Health Monitoring that Meet OBD II Levels, Ford Motor Company, $40,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Jan 2007- Dec. 2007

15. Adaptive Control of Hysteresis in Smart Materials, UH GEAR, PI: Grigoriadis 50%, $28,180, Sept. 2006- Aug. 2007.

16. Self-Tuning Engine Governors, Cummins Engine Company, $40,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Jan 2006 - Dec. 2006

17. Real Time Health Monitoring of Diesel Air Handling Systems, Cummins Engine Company, $40,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Jan 2006 Dec. 2007.

18. **Equipment Award:** Engine Dynamometer Facility, Cummins Engine Company, $25,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Sept. 2005 – May 2006.

19. Auto-tuning Governors for Industrial Engines, Cummins Engine Company, $30,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Sept. 2005 – May 2006.

20. Multivariable Air-Fuel Ratio Engine Control Subject to Variable Time Delays, Ford Motor Company, $40,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Jan 2005 Dec. 2006

21. Linear Parameter Varying Control of Lean NOx Traps, Ford Motor Company, $40,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Sept. 2005 – Dec. 2005.

22. Multivariable Air-Fuel Ratio Engine Control Subject to Variable Time Delays, Ford Motor Company, $30,000 (PI: Franchek, Co-PI: Grigoriadis 50%), Jun. 2004 – Dec. 2004.

23. Fault-Tolerance and Control of Intelligent Materials for Aerospace Vehicles (as part of the NASA URETI Center on Intelligent Bio-Nano Materias and Structures for Aerospace Vehicles), NASA, $580,000 (PI: Grigoriadis), Sept. 2002 –Aug. 2008.

24. Near Zero-g Active Vibration Isolation for Microgravity Experiments, Advanced Technology Program, Texas Higher Education Coordinating Board, $118,000 (PI: Grigoriadis 100%), Jan. 2002 - Aug. 2005.

25. Adaptive Vibration Modeling and Control for Helicopter Reliability and Performance Enhancement, UH Institute of Space Systems Operations, $14,411, Jun. 2004-Aug. 2004 (Malki , Grigoriadis 50%)

26. Adaptive Engine Air-Fuel Control for Lean Operating Mode, Ford Motor Company, $30,000, Sept. 2004 – Aug. 2005 (Franchek, Grigoriadis 50%)

27. Advanced Diesel Engine and Catalytic Aftertreatment Control for Performance Optimization and Emission Reduction, $20,200 (PI: Grigoriadis 100%), UH Grant to Enhance External Research, Sept. 2001 – Aug. 2002

28. Optical Tracking for Telepresence/Teleoperation Space Applications - Post-Doctoral Fellowship (PI: Kakadiaris, Co-PI: Grigoriadis 50%), UH Institute of Space System Operations, $80,000 , Sept. 1999 - Aug.2002,

29. Advanced Control for Engine Aftertreatment, $18,000 (PI: Grigoriadis) 100%, Cummins Engine Company, May 2001 – Dec. 2002.

30. Motion Estimation and Control Algorithms for Robotically-Assisted Surgery, Texas Advanced Research Program, (PI: Kakadiaris, Co-PI: Grigoriadis 50%), $324,000, Jan. 2000 - Dec. 2001.

31. Control and Integrated Design of Mechanical Systems via Linear Matrix Inequalities: CAREER Award Industry Matching Funds, National Science Foundation, $25,000 (PI: Grigoriadis 50%), May 1999 - Apr. 2000.

32. **Student Industrial Fellowship Award:** UH-Draper Graduate Fellowship Program in Control Systems, Charles Stark Draper Laboratory, $38,972 (PI: Grigoriadis 50%, Co-PI: Zimmerman), Sept. 1999 - Aug. 2001.

33. Further Investigation of Robust Gain-Scheduling Techniques for Engine Control, $12,000 (PI: Grigoriadis 100%), Cummins Engine Company, Jan. 1999 - Dec. 1999.

34. Technical and Social Challenges in Medical Robotics, Shell Interdisciplinary Program, $99,580 (PI: Grigoriadis 33%, Co-PI: Kakadiaris, Haney), Jan. 1999 - Dec. 1999

35. Research Experiences for Undergraduates in Control Systems, National Science Foundation, $9,400 (PI: Grigoriadis 100%), Jan. 1999 - Aug. 1999.

36. Control and Integrated Design of Mechanical Systems via Linear Matrix Inequalities: CAREER Award Industry Matching Funds, National Science Foundation, $32,315 (PI: Grigoriadis 100%), Jun. 1998 - May. 1999.

37. **Student Industrial Fellowship Award:** UH-Draper Graduate Fellowship Program in Control Systems, Charles Stark Draper Laboratory, $23,972 (PI: Grigoriadis 50%, Co-PI: Zimmerman), Sept. 1998 - Aug. 1999.

38. **Undergraduate Research Experience Award**: Research Experiences for Undergraduates in Control Systems, National Science Foundation, $7,825 (PI: Grigoriadis 50%), Jan. 1998 - Aug. 1998.

39. Robustness Analysis and Control/Structure Interaction for the Space Station Assembly Phase, Charles Stark Draper Laboratory, $10,000 (PI: Grigoriadis 100%), Jun. 1998 - Dec. 1998.

40. Efficient Model Reduction Methods for Large Scale Multibody Systems, Dynacs Engineering Company, $9,000 (PI: Grigoriadis 50%, Co-PI: Zimmerman), Jan. 1998 - Dec. 1998.

41. Advanced Gain Scheduled Control of Diesel Engines, Cummins Diesel Engine Company, $14,000 (PI: Grigoriadis 100%)., Jan. 1998 - Dec. 1998.

42. A Unified Framework for Robust Parameter Varying Control with Applications to Engine Control Problems, National Science Foundation, $230,815 (PI: Grigoriadis 100%) , Jan. 1998 - Dec. 2002.

43. **NSF CAREER Award:** Control and Integrated Design of Mechanical Systems via Linear Matrix Inequalities, National Science Foundation, $255,008 (PI: Grigoriadis 100%) , Sept. 1997 – June 2003.

44. Improved Student Learning in Electro-Mechanical Design, UH Office of Vice Provost, $14,856 (PI: Reddy, Co-PIs: Chen, Grigoriadis 50%, Co-PI Malki), Sept. 1996 - Aug. 1997.

45. Robust Gain-Scheduled Control for Internal Combustion Engines, UH Energy Laboratory, $8.856 (PI: Grigoriadis 100%), Jan. 1997 - Aug. 1997.

46. Control Design Methods for Mechanical Systems in Vector Second-Order Form, UH Institute for Space System Operations, $7,511 (PI: Grigoriadis 100%), Jan. 1997 - Aug. 1997.

47. Loads Verification and Health Monitoring of Structures, Advanced Technology Program, Texas Higher Education Coordinating Board, $117,980 (PI: Zimmerman, Co-PI: Grigoriadis 50%), Jan. 96 - Dec. 97 .

III. TEACHING AND ADVISING

COURSES TAUGHT (at the Univ. of Houston)

Graduate Level

MECE 7397: Advanced Linear Systems (new course)
ENGI 6362: Methods of Applied Mathematics
MECE 6367: Modern Flight Control Systems Design (new course)
MECE 6374: Nonlinear Control Systems Design (new course)
MECE 6389: Linear Matrix Inequality Control (new course)

Undergraduate Level

MECE 3338: Mechanical Design II - Dynamics and Control of Mechanical Systems (revised course)
MECE 5367: Control Systems Analysis and Design (revised course)

STUDENT ADVISING

Post-Doctoral Students and Research Associates

1. Dr. Javad Mohammadpour, *Adaptive Fault Detection and Control with Application to Engine Optimization,* Jan. 2008 – present.
2. Prof. Kathuhiko Hiramoto, *Integrated Design of Plant and Control Components*, Aug. 2003 – July 2004.
3. Dr. Euripedes Nobrega*, Failure Detection and Fault Tolerant Control*, Jun. 1999 - Feb. 2001.
4. Dr. Musa Abdalla, *LMI Methods for Failure Detection and Fault Tolerant Contro*l, Jan. 2000 - Sept. 2000
5. Dr. Fen Wu*, Control of Systems with Time Delays*, Jan 1997 - Aug. 1997.

Ph.D. Students

1. Musa Abdallah, *Novel Control-Oriented Damage Detection Methods in Structures*, Ph.D Thesis completed in December 1999.
2. Tan Kan, *Parameter Varying Control of Nonlinear Systems with Time Delays and Saturation*, Ph.D. Thesis completed in May 2001
3. Charudatta Mehendele, *Advanced Gain Scheduling for Nonlinear Control Design Using Linear Parameter Varying Systems Theory*, Ph.D. Thesis completed in Dec. 2004.
4. Feng Zhang, *Linear Parameter Varying Control of Nonlinear Systems with Application to Engine Control*, Ph.D. Thesis completed in Jan. 2006.
5. Yuanqiang Bai, *Control of Symmetric and Vector-Second-Order Systems*, Ph.D. Thesis completed in Dec. 2006.
6. Javad Mohamaddpur, *Linear Parameter Varying Filtering and Estimation*, Ph.D. Thesis completed in Dec 2007.
7. Naveed Quraish, *Robust Parameter-Varying Aircraft Control via Feedback Linearization*, Ph.D. Thesis expected in Dec. 2008.
8. Rob Hall, *Input Constrained Control with Applications to Space Systems*, Ph.D. Thesis defense expected in Dec. 2008.
9. Atilla Kilicarslan, *Hysteresis Compensation Using Adaptive Gain Scheduling Control Methods*, Ph.D Thesis defense expected in Aug. 2009
10. Hassene Jammousi, *Adaptive Engine Control and Identification*, Ph.D Thesis defense expected in Aug. 2010 (co-advised with M. Franchek)
11. Rohit Zope, *Adaptive Engine Control for Low Emission*s, Ph.D. Thesis expected in Aug. 2011 (co-advised with M. Franchek)

12. Mona Moheimani, *Integrated Design of Engine Control and Aftertreatment*, Ph.D. Thesis expected in Aug. 2011.

13. Farzad Shirazi, *Parameter Varying Methods for Control of Smart Materials*, Ph.D. Thesis expected in Aug. 2011.

14. Saleh Mirheidari, *Optimized Diesel Engine Control Strategies for Biofuel Usage*, Ph.D. Thesis expected in Aug. 2012 (co-advised with M. Franchek)

Masters Students

1. Kent Kaiser, *Stability and Control Study for a Three-Axis Controllable Glide Vehicle*, M.S. Thesis completed in December 1995.

2. Alexander Mayzus, *Integrated Structural and Control Design via Iterative Redesign*, M.S. Thesis completed in August 1996

3. Ye Xu, *Optimal Design of Active and Passive Control in Structural Systems*, M.S. Thesis completed in May 1997.

4. Brett Shiflett, *Multivariable Identification and Control Design for a Nonlinear Diesel Engine at Variable Operating Speeds*, M.S. Thesis completed in August 1997.

5. Ranganathan Swatiprakash, *Speed Regulation and Fuel Control of Diesel Engines Using Parameter Varying Control*, M.S. Thesis completed in December, 1998.

6. Lee Coggins, Space *Shuttle Water Spray Boiler Control to Avoid Freeze-Ups*, M.S. Thesis defense completed in August 1998.

7. Sofiene Sidi-Ali-Cherif, *Model Reduction and Robust Control of Space Robotic Manipulators*, M.S. Thesis completed in December 1998.

8. Qingwen Song, *Application of Robust Gain Scheduled Control Techniques to Diesel Engine Control*, M.S. Thesis completed in December 1999.

9. Venkatesh Madyastha, *Robust Control of Large Scale Structures via Reduced Order Controllers*, M.S. Thesis completed in July 2000.

10. Larry Chien, *Integrated Plant/Controller Design Using Iterative Redesign Algorithms and Linear Matrix Inequalities*, M.S. Thesis completed in December 2000.

11. Daniel Murray, *Krylov-Based Methods for Model Reduction of Large Scale Systems*, M.S. Thesis completed in May 2001.

12. Ramu Chandra, *Control of Systems with Input Nonlinearities*, M.S. Thesis completed in May 2001.

13. Vinodt Shreenivasan, LMI *Based Filtering and Fault Detection for Parameter Dependent Systems*, M.S. Thesis completed in May 2001.

14. Aiyueh Kwan, *Analytical Transient Response Bounds of Engineering Systems*, M.S. Thesis completed in Aug. 2002.

15. Boris Filev, *Advanced Control for Diesel Engine Aftertreatment*, M.S. Thesis completed in Aug. 2003.

16. Aider Matarrita, Linear Parameter Varying Control for Active Microgravitry Vibration Isolation, M.S. Thesis completed in Dec. 2004.

17. Pranith Varga, *Fault Detection and Fault-Tolerant Control via LPV Methods*, M.S. Thesis completed in Dec. 2005.

18. Idalia Ovalle, *Adaptive Control for Optimized Diesel Engine Fueling and Autotuning*, M.S. Thesis, Aug 2007 (co-advised with M. Franchek)

19. Mona Moheimani, *Control of Structural Systems Using Upper Bound Methods,* M.S. Thesis completed in Aug. 2008.

20. Brandon Dowson. *Three Way Catalyst Health Monitoring,* M.S. Thesis completed in Aug 2008 2007 (co-advised with M. Franchek)

21. Eyip Celik, *Parameter Varying Control of Magneto-Rheological Dampers*, M.S. Thesis completed in Dec 2008.

22. Mustafa Kaya, *Integrated Identification and Semi-Active Control of Smart Materials*, M.S. Thesis completed in Dec 2008.

23. Chris Baldelli, *Real-Time Fault Estimation in Diesel Particulate Filters*, M.S. Thesis expected in Dec 2010 (co-advised with M. Franchek)

24. Shivangi Wagie, *Adaptive PID Methods for Control of Hysteresis in Smart Structures*, M.S. Thesis expected in Dec. 2010.

Undergraduate Students

1. Sofiene Sidi-Ali-Cherif, *Modeling and Control of a Diesel Engine for Emission Reduction*, Honors Thesis completed in May 1997.

2. Aiyueh Kwan, *Algorithms for Model Reduction of Large Space Structures*, Honors Thesis completed in August 1998.

3. Scott Lind, Mr. Alex Hague, Mr. Wilmer Gaviria and Mr. Oscar Gaviria, *FIRST Robotics Competition,* Special Topics Project, May 1998.

4. Nicolas Tognini, *Linear Quadratic Optimal Control for a Diesel Engin*e, Honors Thesis completed in May 2000.

5. Elaine Schomburg, *Kinematics of a Two-Link Planar Robot for Medical Robotics Applications*, Honors Thesis completed in May 2001.

6. Idalia Ovalle, *Advanced Controls for Emission Reduction and Fuel Economy in Automotive Engines*, Honors Thesis completed in Aug. 2006.

7. Roquait Shifatu, *Adaptive Control Strategies for Engine Air Fuel Regulation*, Honor Thesis completed in Aug. 2008.

STUDENT AWARDS

Boeing Graduate Fellowship for Mustafa Kaya (M.S.. Student), Sept. 2006 – Dec. 2008

Boeing Graduate Fellowship for Eyip Celik (M.S.. Student), Sept. 2006 – Dec. 2008

NSF Graduate Fellowship for Idalia Ovalle (M.S. Student), Sept. 2005 – Aug. 2007

Best Paper Presentation Award for Javad Mohhamadpour (Ph.D. Student) American Control Conference, June 2006.

Best Paper Presentation Award for Charudatta Mehendale (Ph.D. Student), American Control Conference, June 2003.

OUTREACH ACTIVITIES

1. *FacultyAdvisor, UH/Pasadena ISD Robotics Team*, FIRST (For Inspiration and Recognition of Science and Technology) National Robotics Competition, in collaboration with the South Houston I.S.D., 1998-2001
2. Director and Principal Investigator of the Texas Workforce Commission project *Aerospace Workforce Innovation Network,* 2007-2009.
3. Director and Principal Investigator of the NSF STEM Center at UH *Accelerated B.S. to Graduate (FastGrad) Program in Engineering*, 2007-2012.
4. *UH/Boeing Fellowship Program Director*: In collaboration with Boeing Company initiated a fellowship program where under Boeing sponsorship NATO countries send students from collaborating institutions and government to UH for advanced degrees (currently two MS students from the Turkish Air Force pursue degrees in Aerospace Engineering fully supported by The Boeing Company)

IV.   PROFESSIONAL ACTIVITIES

EDITORSHIPS AND PROGRAM COMMITTEES

1. *International Program Committee*, 6th International Conference on Informatics in Control, Automation and Robotics, Milan, Italy, 2009
2. *Editorial Board and Program Committee*, IEEE Control Systems Society, 2002 -present
3. *Editorial Board*, IEEE Intelligent Vehicles Symposium, 2005 - present
4. *Editor*, Actuator Saturation Control, Marcel Dekker, New York, 2002.
5. *Guest Editor*, Mathematical Problems in Engineering, Vol. 6&7, Oct. & Nov. 2000
6. *Associate Editor*, IEEE Transactions on Automatic Control, 1999 - 2005.
7. *Associate Editor*, Dynamics & Control, Kluwer Academic Publishers, 1999 - 2005
8. *Associate Editor*, Systems & Control Letters, 1998 - present
9. *Associate Editor*, IEEE Control Systems Society Conference Editorial Board, 1998 - present.
10. *Editorial Board and International Program Committee*, IASTED Technical Committee on Intelligent Systems and Control, 1999 - present.
11. *Editorial Board and Program Committee*, International Smart Structures and Materials Conference, 1998 – present.

12. ***Student Best Paper Award Committee***, 1999 IEEE Conference on Decision and Control, Phoenix, Arizona, 1999 - 2002

CONFERENCE AND SHORT-COURSE ORGANIZATION

1. Organizing Committee, 1st International Virtual Control Conference, 2010
2. General Conference Chair, 11th IASTED International Conference on Intelligent System and Control (ISC 2008), Orlando, Florida, Nov. 2008
3. Conference Co-Chair, 4th International Conference on Control and Signal Processing, Miami, Florida, Nov. 2005.
4. Invited Session Organizer, Parameter Varying Control, 2000 American Control Conference, Chicago, Illinois, June 2000.
5. Invited Short-Course presenter, International Summer School on LMI Methods in Identification, Optimization and Control, University of Compiegne, Compiegne, France, May 1999.
6. Invited Session Organizer, Actuator Saturation Control, American Control Conference, Phoenix, Arizona, 1999
7. Short-Course Organizer (with R. Skelton and T. Iwasaki), Integrated Design of Controlled Engineering Systems, Philadelphia Pennsylvania, June 1998.
8. Invited Session Organizer, Integrated Plant and Control Design, American Control Conference, Philadelphia, Pennsylvania, 1998
9. Short-Course Organizer (with R. Skelton and T. Iwasaki), Control Systems: A Unified Algebraic Approach, Albuquerque, New Mexico, June 1997.
10. Invited Session Organizer, LMI-Based Algorithms for Fixed-Order Control Design, American Control Conference, Albuquerque, New Mexico, June 1997.
11. Organizer, 1995 Texas Systems Day Conference, Houston, Texas, October 1995.
12. Session Chair or Co-Chair for numerous conferences and professional meetings on a yearly basis (over 50 to date)

SCIENTIFIC REVIEW PANELS

1. National Science Foundation Proposal Invited Review Panel, 1998, 2003, 2007, 2008
2. National Science Foundation CAREER Award Invited Review Panel, 1997, 2001
3. Army Research Office Review, 2007
4. NASA Invited Review Panel, 1997, 1998, 1999, 2000
5. NASA Review Invited Panel, 1997
6. National Research Council/AFOSR Invited Review Panel, 1997.

PROFESSIONAL AFFILIATIONS

1. American Society of Mechanical Engineers,

2. American Institute of Aeronautics and Astronautics (Assoc. Fellow)

3. American Society of Engineering Education

4. Institute of Electrical and Electronics Engineers (Senior Member)

5. Society of Automotive Engineers

6. Society of Industrial and Applied Mathematics

7. Sigma Xi Scientific Research Society, Vice-President, 2002-2003, President, 2003-2004

DEPARTMENT AND UNIVERSITY COMMITTEES

1. Director, Aerospace Engineering Program, 1999 – present
   - Initiated the UH/Boeing Fellowship program
   - Directs the Aerospace Workforce Innovation Network (AWIN) project at UH sponsored by the Texas Workforce Commission

2. Promotion & Tenure Committee, College of Engineering, 2007 – present.

3. College Teaching Awards Committee, College of Engineering, 2005 –2008

4. Vice-president, Sigma Xi, University of Houston, 2002 –2003

5. President, Sigma Xi, University of Houston, 2003 –2004.

6. Faculty Advisor, UH AIAA Student Chapter, 2003 - present

7. Graduate Affairs Committee, Dept. of Mech. Eng., 1994- present

8. Undergraduate Affairs Committee, Dept. of Mech. Eng., 2003-present

9. Mechanical Engineering Faculty Search Committee, 2001-2002.

10. Chairman, Dynamic Systems, Control and Design Committee, Dept. of Mech. Eng., 1997- present

11. University Library Committee, 1997- 2005

12. University Teaching Excellence Awards Committee, 1998-1999

13. Faculty Search Committee (Controls), Dept. of Mechanical Engineering, 1999 – 2001

14. Faculty Search Committee (Materials), Dept. of Mechanical Engineering, 1999 – 2001