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EDUCATION

- Ph.D.* Mechanical Engineering, Michigan State University, 1988.
 Thesis: *Frequency Domain Robust Control of Distributed Parameter Systems.*
- M.S.* Mechanical Engineering, Michigan State University, 1984.
 Thesis: *Active Control of Mechanical Vibration Utilizing Pneumatic Forces.*
- B.S.* Mechanical Engineering, The Ohio State University, 1982.

PROFESSIONAL EXPERIENCE

- Professor* (2002-) Teaching responsibilities: undergraduate controls, vibration, dynamics and measurements courses; graduate control course. Co-Head of Design and Analysis of Control Systems Research Laboratory. Department of Mechanical and Industrial Engineering, UMass.
- Visiting Professor* (3/2002-7/2002) Academic Guest, Measurement and Control Laboratory, Swiss Federal Institute of Technology, ETH, Zürich, Switzerland.
- Visiting Professor* (1/2002-3/2002) Lady Davis Fellow, Department of Mechanical Engineering, the Technion, Haifa, Israel.
- Visiting Professor* (5/1996-7/1996) Laboratory for Measurement and Control, Delft University of Technology, Delft, The Netherlands.
- Visiting Professor* (3/1996-4/1996) Department of Electrical Engineering - Systems, Tel Aviv University, Tel Aviv, Israel.
- Associate Professor* (1994-2002) Same as above.
- Assistant Professor* (1988-1994) Same as above.
- Consultant* (1986-) Various companies in the USA and internationally.
- Teaching Assistant* Instructor, undergraduate control course. Instructor, undergraduate

(1985-1986)	instrumentation lab. Mechanical Engineering Department, Michigan State University.
<i>Research Assistant</i> (1984-1988)	Manager of Noise and Vibration Lab, A.H. Case Center for CAE and Manufacturing, Michigan State University.
<i>Industrial</i> (1985)	Power Systems Department, General Motors Research Labs, Warren, MI.

PROFESSIONAL ASSOCIATIONS

Fellow, American Society of Mechanical Engineers.
Associate Editor, ASME Journal of Dynamic Systems, Measurement, and Control

JOURNAL PUBLICATIONS and REPORTS

1. Beker, O., Hollot, C.V., and Chait, Y., and Han, H., "Fundamental properties of reset control systems," *Automatica*, to appear.
2. Chait, y., and Hollot, C.V., 2002, "On Horowitz's Contributions to Reset Control," to appear in *International J. Robust and Nonlinear Control*, Vol 12(3).
3. C.V. Hollot, O. Beker, Y. Chait and Q. Chen, "On Establishing Classical Performance Measures for Reset Control Systems," a chapter in *Perspectives in Robust Control*, Ed. R. Mohemani, Springer-Verlag, pp. 123-145, 2001.
4. Beker, O., Hollot, C.V., and Chait, Y., 2001, "Plant with Integrator: An Example of Reset Control Overcoming Limitations of Linear Feedback," *IEEE Transaction on Automatic Control*, Vol. 46, no. 11, pp. 1797–1799.
5. Chen, Q., Chait, Y., and C.V. Hollot, 2001, "Analysis of reset control systems consisting of a FORE and second-order loop," *J. Dynamic Systems, Measurements, and Control*, Vol. 123, pp. 279-283.
6. Lee, W.L. Chait, Y., and Steinbuch, M., 2000, "On QFT tuning of multivariable mu controllers," *Automatica*, 36, 1701-1708,.
7. Park, M.S., Lee, H.S., Kim, I.Y, and Chait, Y., 2000, "Application of Multivariable control design to dual-mode digital versatile drive," *Asian Journal of Control*, Vol 2(3), pp. 204-211.
8. Zheng, Y., Chait, Y., Hollot, C.V., Steinbuch, M., and Norg, M., 2000, "Experimental demonstration of reset control design," *Control Engineering Practice*, Vol. 8(2), pp. 113-120.
9. Chait, Y., Chen, Q., and Hollot, C.V., 1999, "Automatic loop-shaping of QFT controllers via linear programming," *J. Dynamic Systems, Measurements, and Control*, Vol. 121, pp. 351-357.
10. Chait, Y., and Steinbuch, M., 1999, "Robust control design of a high performance flexible electro-mechanical system," in *Structural Dynamics Systems Computational Techniques and Optimization*, Dynamic Analysis and Control Techniques, ed. C.T. Leondes, G&B Science Publisher, NJ, pp. 211-240.
11. Hu, H., Zheng, Y., Hollot, C.V., and Chait, Y., 1999, "On the Stability of Control Systems Having Clegg Integrators," in *Recent Developments in Control Theory and Applications*, Miller and Qiu (eds), Springer Verlag, pp. 98-105.
12. Rodrigues, J.M., Chait, Y., and Hollot, C.V., 1997, "An efficient algorithm for computing QFT bounds," *J. Dynamic Systems, Measurements, and Control*, Vol. 119, pp. 548-552.

13. Park, M-S, Chait, Y. and Steinbuch, M., 1997, "Inversion-free design algorithms for multivariable Quantitative Feedback Theory: an application to robust control of a CD-ROM," *Automatica*, Vol. 33, pp. 915-920.
14. Bentley, A.E., Horowitz, I., Chait, Y., and Rodrigues, J.M., 1996, Control of Resistance Plug Welding Using Quantitative Feedback Theory, *Sandia National Labs Report*, SAND94-0795, UC-706.
15. Chait, Y., Borghesani, C., and Zheng, Y., 1995, "Single-loop QFT design for robust performance in the presence of non-parametric uncertainties," *J. Dynamic Systems, Measurements, and Control*, Vol. 117, pp. 420-424.
16. Chait, Y., Park, M.S., and Steinbuch, M., 1994, "Design and implementation of a QFT controller for a compact disk player," *J. Systems Engineering*, Vol. 4, pp. 107-117.
17. Cohen, N., Chait, Y., Yaniv, O., and Borghesani, C., 1994, "Stability analysis using Nichols charts," *Int. J. Robust and Nonlinear Control*, Vol. 4, pp. 3-20.
18. Chait, Y., and Park M-S, 1993, "Disturbance rejection in flexible structures via the Quantitative Feedback Theory," *J. Guidance, Control, and Dynamics*, Vol. 16, pp. 970-973.
19. Yaniv, O., and Chait, Y., 1993, "Direct control design in sampled-data uncertain systems," *Automatica*, Vol. 29, pp. 365-372.
20. Chait, Y., and Yaniv, O., 1993, "Multi-input/single-output computer aided control design using the Quantitative Feedback Theory," *Int. J. Robust and Nonlinear Control*, Vol. 3, pp. 47-54.
21. Benschabat, D.G., and Chait, Y., 1993, "Application of Quantitative Feedback Theory to a class of missiles," *J. Guidance, Control, and Dynamics*, Vol. 16, pp. 47-52.
22. Lacey, N.F., Chait, Y., and MacCluer, C.R., 1992, "Formulae for computing time responses of closed-loop flexible systems using model truncation," *J. Dynamic Systems, Measurements, and Control*, Vol. 114, pp. 589-591.
23. Jayasuriya, S., Yaniv, O, Nwokah, O.D.I, and Chait, Y., 1992, "Benchmark Problem Solution by Quantitative Feedback Theory," *AIAA J. Guidance, Control, and Dynamics*, Vol. 15, pp. 1087-1093.
24. Yaniv, O., and Chait, Y., 1992, "A simplified multi input/output formulation for the Quantitative Feedback Theory," *J. Dynamic Systems, Measurements, and Control*, Vol. 114, pp. 179-185.
25. Nwokah, O.D.I, Jayasuriya, S., and Chait, Y., 1992, "Parametric robust control by Quantitative Feedback Theory," *AIAA J. Guidance, Control, and Dynamics*, Vol. 15, pp. 207-214.
26. Chait, Y., Lacey, N.F., and MacCluer, C.R., 1991, "Using operational calculus to obtain transient response estimates in linear uncertain feedback systems," *J. Dynamic Systems, Measurements, and Control*, Vol. 113, pp. 523-525.
27. Chait, Y., 1991, "Modeling error bounds for flexible structures with application to robust control," *J. Guidance, Control, and Dynamics*, Vol. 13, pp. 665-667.
28. Chait, Y., Cohen, N., and MacCluer, C.R., 1991, "In search of weaker conditions to insure robust stability in linear feedback systems," *J. Dynamic Systems, Measurements, and Control*, Vol. 113, pp. 168-170.
29. MacCluer, C.R., and Chait, Y., 1991, "Choosing an inner product that separates variables," *SIAM Classroom Notes*, Vol. 33, pp. 467-471.
30. Chait, Y., Miklavcic, MacCluer, C.R., and Radcliffe, C.J., 1990, "A natural model expansion for the flexible robot arm via a self-adjoint formulation," *IEEE Trans. Robotics and Automation*, Vol. 6, pp. 601-603.

31. MacCluer, C.R., and Chait, Y., 1990, "Obtaining robust stability operationally," *IEEE Trans. Automatic Control*, Vol. AC-35, pp. 1350-1351.
32. Chait, Y., and Radcliffe, C.J., 1989, "Control of flexible structures with spillover using an augmented observer," *J. Guidance, Control, and Dynamics*, Vol. 12, pp. 155-161.
33. Chait, Y., MacCluer, C.R., and Radcliffe, C.J., 1989, "A nyquist stability criterion for distributed parameter systems," *IEEE Trans. Automatic Control*, Vol. AC-23, pp. 90-92.
34. MacCluer, C.R., Miklavcic, M., and Chait, Y., 1989, "The temperature stability of a radiant slab-on-grade," *ASHRAE Trans.*, Vol. 95, Part I, pp. 1001-1009.
35. Chait, Y., Radcliffe, C.J., and MacCluer, C.R., 1988, "Frequency domain stability criterion for vibration control of the bernoulli-euler beam," *J. Dynamic Systems, Measurements, and Control*, Vol. 110, pp. 303-307.

CONFERENCES and PRESENTATIONS

1. Hollot, C.V., and Chait, 2001, "Nonlinear Stability Analysis for a Class of TCP/AQM Networks," *Procs. Conference on. Decision and Control*, Florida, pp. 2309-2314.
2. Chait, Y, Oldak, S., Hollot, C.V., and Misra, V., 2001, "An Adaptive Control Strategy for AQM Routers Supporting TCP Flows," to appear in *Advances in Adaptive and Optimal Control, 2001 ASME International Mechanical Engineering Congress and Exposition*, New York.
3. Toochinda, V., Hollot, C.V., and Y. Chait, 2001, "On Selecting Sensor and Actuator Locations for ANC in Ducts, " *Procs. Conference on. Decision and Control*, Virginia, pp. 2593-2598.
4. Beker, O., Hollot, C.V., and Chait, Y., 2001, "Plant with Integrator: An Example of Reset Control Overcoming Limitations of Linear Feedback," *Procs. American Control Conference*, Arlington, VA, pp. 1519-1520.
5. Beker, O., Hollot, C.V., and Chait, Y., 2001, "Stability of Limit Cycles in Reset Control Systems," *Procs. American Control Conference*, Arlington, VA, pp. 4681-4682.
6. Toochinda, V., Klawitter, T., Hollot, C.V., and Chait, Y., 2001, "A Single-Input Two-Output Feedback Formulation for ANC Problems," *Procs. American Control Conference*, Arlington, VA, pp. 923-928.
7. Chait, Y, Hollot, C.V., Vishal, M., Oldak, S., Towsley, D., and Gong, W.B., 2001, "Fixed and Adaptive Model-Based Controllers for Active Queue Management," *Procs. American Control Conference*, Arlington, VA, pp. 2981-2986.
8. Chen, Q., Chait, Y., Hollot, C.V. and Beker, O., 2000, "On Reset Control System with Second-Order Plants," *Procs. American Control Conference*, Chicago, IL, pp. 205-209.
9. Chen, Q., Hollot, C.V. and Chait, Y., 2000, "BIBO Stability of A Class of Reset Control Systems," *Procs. Conference in Information Science and System*, Princeton, NJ, TP-08-13.
10. Beker, O., Hollot, C.V., and Chait, Y., 1999, "Stability of A MIMO Reset Control System Under Constant Inputs," *Procs. the 38th IEEE Conference on Decision and Control*, pp Phoenix, AZ, pp. 2780-2781.
11. Beker, O., Hollot, C.V., Chen, Q., and Chait, Y., 1999, "Stability of A Reset Control System Under Constant Inputs," *Procs. American Control Conference*, San Diego, CA., pp. 3044-3045.
12. Chen, Q., Chait, Y., and Hollot, C.V., 1999, "On the Convexity of QFT Bounds and its relation to Automatic Loopshaping," *Procs. American Control Conference*, San Diego, CA, pp.1425-1426.
13. Hollot, C.V., and Chait, Y., 1998, "Designing ANC systems directly from frequency responses," *American Control Conference*, invited presentation.
14. Hollot, C.V., Zheng, Y., and Chait, Y., 1997, "Stability analysis for control systems with reset integrators," *Procs. Decision & Control Conference*, pp. 1717 - 1719.
15. Chait, Y., 1997, "QFT loop shaping and minimization of the high-frequency gain via convex optimization," *Procs. Symp on Quantitative Feedback Theory and other Frequency Domain Methods and Applications*, pp. 13-28.
16. Yaniv, O., Chait, Y., and Borghesani, C., 1997, "The QFT Design Toolbox for MATLAB," *Procs. 2nd IFAC Symp on Robust Control Design*, pp. 107-112.
17. Hu, H., Zheng, Y., Hollot, C.V., and Chait, Y., 1997, "On the zero-input stability of control systems having Clegg integrators," *Procs. American Control Conference*, pp. 408-410.
18. Mehta, P., Zheng, Y., Chait, Y., and Hollot, C.V., 1996 "A New Approach to Active Noise Control in Ducts,," in *Active Control of Vibration and Noise*, ASME Vol. DE, pp. 25-36.

19. Mehta, P., Zheng, Y., Hollot, C.V., and Chait, Y., 1996, "Active noise control in ducts: feedforward/feedback design by blending H_∞ and QFT methods," *Procs. 13th IFAC World Congress*, Vol. H, pp. 191-197.
20. Chait, Y., Hollot, C.V., Mehta, P., and Zheng, Y., 1996, "Active noise control in ducts using non-adaptive feedforward/feedback control," *Procs. Noise-Con*, pp. 379-384.
21. Borghesani, C., and Chait, Y., 1995, "The QFT Toolbox for MATLAB," *Procs. 2nd QFT Symp.*, Purdue University.
22. Rodrigues, J.M., Chait, Y., and Hollot, C.V., 1995, "A new technique for computing QFT bounds," *Procs. American Control Conference*, pp. 3970-3974.
23. Bentley, A.E., Horowitz, I.H., Rodrigues, J., and Chait, Y., 1994, "Control of resistance plug welding using Quantitative Feedback Theory," *Procs. ASME Winter Annual Meeting*, DSC-Vol. 55-1, pp. 117-126.
24. Chait, Y., and Steinbuch, M., 1994, "Design trade-off issues in robust control of a compact disk player," *Procs. Winter Annual Meeting, Information Storage & Processing Systems*.
25. Chait, Y., Park, M.S., and Steinbuch, M., 1994, "Design and implementation of a QFT controller for a compact disk player," *Procs. American Control Conference*, pp. 3204-3208.
26. Park, M.S., Chait, Y., and Steinbuch, M., 1994, "A new approach to multivariable QFT: theoretical and experimental results," *Procs. American Control Conference*, pp. 340-344.
27. Chait, Y., and Tsytkin, Ya.Z., 1993, "SISO QFT design with Non-parametric Uncertainties," *Procs. American Control Conference*, pp. 1694-1692.
28. Cohen, N., Chait, Y., Yaniv, O., and Borghesani, C., 1992, "Stability analysis using Nichols charts," *Procs. Control and Decision Conference*, pp. 849-850.
29. Park, M-S, Rodrigues, J., and Chait, Y., 1992, "A natural extension of QFT to general MIMO systems," *Advances in Robust and Nonlinear Control Systems*, ASME DSC-Vol. 43, ed. E.A. Misawa, pp. 23-28.
30. Park, M-S, Chait, Y., and Rodrigues, J., 1992, "Direct Quantitative Feedback Theory design for multi-input multi-output systems," *Procs. Air Force Symp. on QFT*, Report, WL-TR-92-3063, pp. 383-397.
31. Cohen, N., Chait, Y., Yaniv, O., and Borghesani, C., 1992, "Stability analysis using Nichols charts," *Procs. Air Force Symp. on QFT*, Report WL-TR-92-3063, pp. 80-103.
32. Chait, Y., 1991, "Multi input/output Quantitative Feedback Theory and robust internal stability," *Procs. Control and Decision Conference*, pp. 2970-2971.
33. Chinniah, A., and Chait, Y., 1991, "New considerations in the tracking problem using QFT," *Robust Control of Mechanical Systems: Theory and Applications*, ASME WAM Conf., O.D.I. Nwokah, ed., DSC-Vol. 24, pp. 33-38.
34. Yaniv, O., and Chait, Y., 1991, "Direct robust control of uncertain sampled-data systems using the Quantitative Feedback Theory," *Procs. American Control Conference*, 1991, pp. 1987-1988.
35. Chait, Y., and Yaniv, O., 1991, "Disturbance rejection in flexible structures via the Quantitative Feedback Theory," *Procs. 8th VPI&SU/AIAA Symp. Dynamics and Control of Large Space Structures*, Ed. L. Meirovitch, pp. 445-456.
36. Yaniv, O., and Chait, Y., 1991, "A simplified multi input/output formulation for the Quantitative Feedback Theory," *4th Workshop on Control Mechanics*; also in *Procs. American Control Conference*, pp. 1995-2000.
37. Nwokah, O.D.I., Jayasuriya, S., and Chait, Y., 1991, "Parametric robust control by Quantitative Feedback Theory," *Procs. American Control Conference*, pp. 1975-1980.
38. MacCluer, C.R., and Chait, Y., 1990, "Obtaining Robust stability operationally," *Proc. Computer Decision and Control Conf.*, pp. 1178-1180.

39. Chait, Y., and Hollot, C.V., 1990, "A comparison between H-infinity methods and QFT for a siso plant with both parametric uncertainty and performance specifications," *Recent Development in Quantitative Feedback Theory*, ASME WAM Conf., O.D.I. Nwokah, ed., pp. 33-40.
40. Benshabat, D., and Chait, Y., 1990, "Synthesis of constant feedback controllers for unstable & nonminimum-phase missiles with a large flight envelope," *Procs. AIAA Guidance, Navigation and Control Conf.*, pp. 266-270.
41. Chait, Y., Lacey, N.F., and MacCluer, C.R., 1990, "Using operational calculus to obtain transient response estimates in linear uncertain feedback systems," *Proc. American Control Conference*, pp. 2043-2044.
42. MacCluer, C.R., and Chait, Y., 1989, "Choosing an inner product that separates variables," *Procs. Control and Decision Conference*, pp. 794-798.
43. Chait, Y., Cohen, N., and MacCluer, C.R., 1989, "In search of weaker conditions to insure robust stability in linear feedback systems," *Procs. ASME WAM Conf.*, paper no. 89-WA\DSC-13.
44. Chait, Y., 1989, "Computation of frequency domain approximation bounds for large space structures with analytic models," *Procs. VPI&SU/AIAA Symp. Dynamics & Control of Large Space Structures*, pp. 411-421.
45. MacCluer, C.R., and Chait, Y., 1989, "Time domain feedback control of distributed parameter systems using approximate models -- an operational approach," *Procs. 5th IFAC Symp. Control of Distributed Parameter Systems*, pp. 201-204.
46. Chait, Y., and MacCluer, C.R., 1989, "A method for estimating the transient response of nonrational flexible systems with feedback using rational open-loop approximations," *Procs. American Control Conference*, pp. 1036-1039.
47. Chait, Y., and Radcliffe, C.J., 1988, "Control of flexible structures with spillover using an augmented observer," *Procs. American Control Conference*, pp. 1193-1198.
48. Chait, Y., Miklavcic, MacCluer, C.R., and Radcliffe, C.J., 1988, "A truncated model for control of a flexible robot arm," *Procs. 19th Pittsburgh Conf. Modeling and Simulation*, pp. 2051-2055.
49. Chait, Y., Radcliffe, C.J., and MacCluer, C.R., 1988, "Control of distributed parameter systems using truncated models: guaranteed closed-loop stability and frequency response design," *Recent Advances in Control of Nonlinear and Distributed Parameter Systems: Robust Control and Aerospace Applications*, *Procs. ASME WAM Conf.*, Bentsman, J., ed. DSC VOL. 10, pp. 119-128.
50. Chait, Y., and Radcliffe, C.J., 1985, "Dynamics of a solenoid actuated pneumatic system," *Procs. ASME WAM Conf.*, Vol 1, pp. 121-126.

OTHER PUBLICATIONS

1. Borghesani, C., Chait, Y., and Yaniv O., 2003, *QFT Frequency Domain Control Design Toolbox for MATLAB*, User's Guide and Software, TeraSoft, Inc., CA.
2. Borghesani, C., Chait, Y., and Yaniv O., 1995, *The Quantitative Feedback Theory MATLAB Toolbox*, User's Guide and Software, The MathWorks, Inc., Massachusetts.

RESEARCH GRANTS

1. *Enhanced DSP Code Generation Tools*, Kollmorgen, Inc., \$50,000, 2003, (with C.V. Hollot and T. Djaferis).
2. *Scalable AQM Routers Supporting Heterogeneous Traffic*, NSF, 2002, 3 years, \$334,753 (with C.V. Hollot and V. Misra).
3. *Implementation of Rapid Prototyping of DSP-Based Control Systems*, \$25K, 2002, NSF GOALI: *Integrating Industry Perspective into University Research by Creating Teams of Academic-Industry Technology Specialists*, (with C.V. Hollot and T. Djaferis).
4. *Research Experiences for Undergraduates*, The National Science Foundation, \$10,000, 1999-2001 (with C.V. Hollot).
5. *Reset Control for High-Performance Electro-Mechanical Devices*, The National Science Foundation, \$210,000, 1999-2001 (with C.V. Hollot).
6. *Application of Multivariable Control in Multiple Axes Pedestals*, Kollmorgen Corp., \$48,000, 1998-1999 (with C.V. Hollot and T. Djaferis).
7. *Robust Control Design of Digital Versatile Disc (DVD) Mechanisms*, Amherst Applied Control Inc., \$24,000, 1997-1998.
8. *Research in Multi-Input Multi-Output Robust Control Design*, The National Science Foundation, \$150,000, 1994-1997.
9. *Research Experiences for Undergraduates*, The National Science Foundation, \$10,000, 1994-1995.
10. *Research in Multivariable Robust Control Design*, Faculty Research Grant, University of Massachusetts, \$5,000, 1994-1995.
11. *New Generation of Industrial Laser Workstations*, UMass Center of Manufacturing Productivity and Applied Light, Inc., \$51,500 (\$55,500-ALI, \$25,500-CMP), 1993-1994
12. *Advanced Control Design to Improve Reliability and Productivity of an Airborne Particle Analyzer*, UMass Center of Manufacturing Productivity and Amherst Process Instruments, Inc., \$102,422 (\$72,342-API, \$30,080-CMP), 1991-1992
13. *Research Experiences for Undergraduates*, The National Science Foundation, \$20,000, 1990-1993.
14. *Development and Experimental Verification of a Practical Robust Control Technique for Flexible Mechanical Systems*, The National Science Foundation, \$166,320, 1990-1993.
15. *Robust Control of Flexible Mechanical Systems*, Faculty Research Grant, University of Massachusetts, \$5,000, 1988-1989.