University of Virginia

1995-1996 Visiting Scholar

e. Session Chair for Conferences

2020 63rd IEEE International Midwest Symposium on Circuits and Systems, Aug 9-12, 2020

2014 American Control Conference

2011 American Control Conference

2009 American Control Conference

2008 IEEE Conference on Decision and Control

2007 American Control Conference

2006 American Control Conference

2004 American Control Conference

2004 IEEE Conference on Decision and Control

2001 IEEE Conference on Decision and Control

2000 IEEE Conference on Decision and Control

f. Grant Proposal Review Panel

2022 NSF grant proposal review: Energy, Power, Control and Networks, Mar 31-Apr. 1

2015 NSF grant proposal review panel: CMMI - Control Systems, May 19, 2015

NSF grant proposal review panel: Energy, Power and Adaptive Systems, April 17-18, 2014

2013 NSF grant proposal review panel: Energy, Power and Adaptive Systems, July 24-25.

2011 NSF grant proposal review panel: Energy, Power and Adaptive Systems, March 17-18, 2011

2010 NSF grant proposal review panel: Power, Control and Adaptive Networks

2008 NSF grant proposal review panel: Power, Control and Adaptive Networks

2007 NSF grant proposal review panel: Power, Control and Adaptive Networks

2. Professional Honors and Awards

2007 Teaching Excellence Awards, Department of Electrical and Computer Engineering, University of Massachusetts Lowell.

C. Research

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1. Grants and Contracts

2022 Toward self-powered systems: Power management for nanogenerators, submitted to NSF, Declined.

2018 Low cost high performance LED drivers based on self-oscillating power converters OTCV Technology Development Fund FY19 – Q Drotlu Vd). Not Funded

2012 Control design of power electronic interfaces for optimal performance of renewable energy systems (as sole PI), National Science Foundation, September, 2012 - August, 2015. $372,409.

2020 W. Harmon, D. Bamgboje, H. Guo, T. Hu and Z.L. Wang, "Self-driven power management system for triboelectric nanogeneraotors," Nano Energy, vol. 71, May 1. 104642, 2020.

2019 D. Bamgboje, W. Harmon, M. Tahan, and T. Hu. "Low Cost High Performance LED Driver Based on a Self-Oscillating Boost Converter." IEEE Transactions on Power Electronics 34, no. 10 (2019): 10021-10034.

2017 M. Tahan and T. Hu, "

2009 T. Thibodeaua, W. Tong, and T. Hu, "Set invariance and performanc

2004 H. Fang, Z. Lin and T. Hu, "Analysis and control design of linear systems in the presence of actuator saturation and L2-disturbances," Automatica, 40(7), pp. 1229-1238, 2004.

2004 T. Hu, Z. Lin and Y. Shamash, "Semi-global stabilization with guaranteed regional performance of linear systems subject to actuator saturation and L2-disturbance under pole assignment constraint," Journal of Optimization Theory and Applications, July, 2004.

2004 T. Hu and Z. Lin, "Properties of the composite quadratic Lyapunov functions," IEEE Transactions on Automatic Control, 49(7), pp. 1162-1167, 2004.

2004 T. Hu and Z. Lin, "Controlled invariance of ellipsoids: linear vs nonlinear feedback," Systems & Control Letters, 53, pp. 203-210, 2004.

2003 T. Hu, Z. Lin and Y. Shamash, "On maximizing the convergence rate for linear systems with input saturation," IEEE Transactions on Automatic Control, 48(7), pp. 1249-1253, 2003.

2003 T. Hu and Z. Lin, "On the tightness of a recent set invariance condition under actuator saturation," Systems & Control Letters, 49(5), pp. 389-399, 2003.

2003 T. Hu and Z. Lin, "Composite quadratic Lyapunov functions for constrained control systems," IEEE Transactions on Automatic Control, 48(3), pp. 440-450, March 2003.

2002 T. Hu and Z. Lin, "Output regulation of general discrete-time linear systems with saturation nonlinearities," Int. J. of Robust and Nonlinear Control, 12(13), pp. 1129-1143, 2002.

2002 T. Hu, D. Miller and L. Qiu, "Null controllable region of LTI discrete-time systems with input saturation," Automatica, 38(11), pp. 2009-2013, 2002.

2002 T. Hu and Z. Lin, "On improving performances with continuous feedback laws," IEEE Transactions on Automatic Control, 47(9), pp. 1570-1575, 2002.

2002 T. Hu, Z. Lin and L. Qiu, "An explicit description of the null controllable regions of linear systems with saturating actuators," Systems & Control Letters, 47(1), pp. 65-78, 2002.

2002 T. Hu and Z. Lin, "On semi-global stabilizability of anti-stable systems by saturated linear feedback," IEEE Transactions on Automatic Control, 47(7), pp. 1193-1198, 2002.

2002 T. Hu and Z. Lin, "Exact characterization of invariant ellipsoids for linear systems with saturating actuators," IEEE Transactions on Automatic Control, 47(1), pp. 164-169, 2002.

2002 T. Hu, Z. Lin and B. M. Chen, "An analysis and design method for linear systems subject to actuator saturation and disturbance," Automatica, 38(2), pp. 351-359, 2002.

2002 T. Hu, Z. Lin and B. M. Chen, "Analysis and design for linear discrete-time systems subject to actuator saturation," Systems & Control Letters, 45(2), pp. 97-112, 2002.

2002 Y. Y. Cao, Z. Lin and T. Hu, "Stability analysis of linear time-delay systems subject to actuator saturation," IEEE Transactions on Circuits and Systems-Part I: Fundamental Theory and Applications, 49(2), pp. 233-240, 2002.

2001 T. Hu, Z. Lin and Y. Shamash, "Semi-global stabilization with guaranteed regional performance of linear systems subject to actuator saturation," Systems & Control Letters, 43(3), pp. 203-210, 2001.

2001 Z. Lin and T. Hu, "Semi-global stabilization of linear system subject to output

Curriculum Vitae of Tingshu Hu, March

2017 M. Tahan and T. Hu, “High performance multiple string LED driver with

eQ q /Artifact BMC 123.6 554.16 68.4 13.0.98 0 0 10.98 198 558.18 Tm 0.0035EMC ET Q q /02 0 0 10.02 123.6

Semester	Course Number	Course Title	Enrollment	Level
Spring 2010	16.513	Control Systems	34	G
	16.201	Introductory Circuit Theory I	52	U
Fall 2009	16.201	Introductory Circuit Theory I	51	U
	16.201	Introductory Circuit Theory I	32	U
Spring 2009	16.513	Control Systems	39	G
	16.201	Introductory Circuit Theory I	45	U
Fall 2008	16.201	Introductory Circuit Theory I	48	U
	16.201	Introductory Circuit Theory I	46	U
Spring 2008	16.513	Control Systems	34	G
	16.613	; Nonlinear Sy 34 Sy		

2010-2013 Mr. Hoeguk Jung. Thesis topic: Modeling and control design of power systems driven by E D W W H U \ V X S S O L H G V R X U F H V . Graduated in May 2013.

2009-2012 Miss Huong Pham. Thesis topic: Minimizing ripples of PWM U H F W L I L H U V Z L W K feedback. Graduated in Dec 2012.

c. Visiting PhD student

0 U & K U L V W L D Q & R Q ¿ F R Q L Italy. 8 Q L Modeling and control design of power electronic interface for systems Z L W K E D W W H U \ V X S H U F D S D F L W R U K \ -

d. M.S. student research directing

f. Lab Development Activities

2006- The control system lab (in Ball Hall 406) has been developed with the support of National Science Foundation. 6 sets of electronic testing equipment have been installed. Several power electronic converters have been constructed to achieve stability and tracking. The lab is also equipped with battery evaluation devices.

E. Service Activities

1. Community Activities Related to Professional Field

2021- ECE Department, Interim Associate chair, since Sept. 2021
2021- ECE Department, Personnel Committee member
2021- Open House, Oct. 3, Nov. 14, 2021

2012- Faculty senator

2008- Personal committee member for ECE department

2005- Website development and maintenance for ECE department. 2006-2011 Website maintenance for Emeritus Professor Wu Ching. 2006 Website development for Assistive Technology Program (ATP)