Biographical Sketch: Zongli Lin

Zongli Lin is the Ferman W. Perry Professor of Electrical and Computer Engineering at the University of Virginia. He is an IEEE Fellow and an internationally recognized leader in systems and control, with seminal contributions to constrained control, nonlinear and networked systems, distributed optimization, and reinforcement learning–based control. He has authored several influential books and hundreds of journal and conference papers, served in numerous leadership roles within IEEE, and is a highly sought-after speaker worldwide.

Positions and Affiliation

- Ferman W. Perry Professor, Department of Electrical and Computer Engineering, University of Virginia, Charlottesville, VA.

Education

- Ph.D. in Electrical and Computer Engineering, Washington State University, Pullman, WA, USA, 1994
- Master of Engineering in Control Engineering and Applications, Chinese Academy of Space Technology, Beijing, China, 1989
- BS in Computer Science and Mathematics, Xiamen University, Xiamen, China, 1983

Technical Expertise

- Systems Theory; Constrained Controls; Nonlinear Control Systems; Control Systems with Time Delays; Distributed Control; Control of Network Systems; Distributed Optimization; Reinforcement Learning-Based Control; Ising Machines for Analog Computing; Microgrids.

Recognition of Leadership

- Fellow of IEEE (Class of 2007), cited for contributions to linear and nonlinear control theory
- Fellow of IFAC, AAAS, ASME, and the Chinese Association of Automation (CAA)
- Member, IEEE Fellow Evaluation Committees (SMCS, CSS, and ITSS)
- Chair, IEEE CSS Technical Committee on Nonlinear Systems and Control (2013–2015)
- Member of Boards of Governors, IEEE Control Systems Society (2008–2010, 2019–2021)
- Program Chair, American Control Conference (2018)
- General Chair, American Control Conference (2028)
- Distinguished Researcher Award, University of Virginia (2025)

Publications

Professor Lin has authored 7 books, 2 U.S. patents, 14 book chapters, 390 journal papers, and 355 conference papers, with over 30,000 citations and an h-index of 83, according to Google Scholar. Some representative publications are as follows:

- S.A.A. Rizvi and Z. Lin, *Output Feedback Reinforcement Learning Control for Linear Systems*, Birkhauser, New York, 2023.
- T. Hu and Z. Lin, *Control Systems with Actuator Saturation: Analysis and Design*, Birkhäuser, Boston, 2001.
- Z. Lin, *Low Gain Feedback*, Springer-Verlag, London, 1998.
- Y. Cheng and Z. Lin, "All-to-all connected oscillator Ising machines and their application as associative memory," *IEEE Transactions on Neural Networks and Learning Systems*, published online, 2025.
- X. He and Z. Lin, "Distributed generalized Nash equilibrium seeking for linear systems over a switching network," *IEEE Transactions on Cybernetics*, Vol. 55, No. 9, pp. 4333-4346, 2025.
- Y. Qian, Y. Wan, Z. Lin, Y. Shamash and A. Davoudi, "Distributed dynamic event-triggered control of power buffers in DC microgrids," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, Vol. 52, No. 12, pp. 7748-7759, 2022.
- S.A.A. Rizvi and Z. Lin, "Adaptive dynamic programming for model-free global stabilization of control constrained continuous-time systems," *IEEE Transactions on Cybernetics*, Vol. 52, No. 2, pp. 1048-1060, 2022.

- Y. Wei and Z. Lin, "A memoryless delay-adaptive feedback law for the regulation of discrete-time linear systems," *SIAM Journal on Control and Optimization*, Vol. 59, No. 4, pp. 2756-2773, 2021.
- H. Gu, P. Liu, J. Lu and Z. Lin, "PID control for synchronization of complex dynamical networks with directed topologies," *IEEE Transactions on Cybernetics*, Vol. 51, No. 3, pp. 1334-1346, 2021.
- S.A.A. Rizvi and Z. Lin, "Reinforcement learning based linear quadratic regulation of continuous-time systems using dynamic output feedback," *IEEE Transactions on Cybernetics*, Vol. 50, No. 11, pp. 4670-4679, 2020.
- S. Su, Z. Lin and A. Garcia, "Distributed synchronization control of multi-agent systems with unknown nonlinearities," *IEEE Transactions on Cybernetics*, Vol. 46, No. 1, pp. 325-338, 2016.
- T. Hu, L. Ma and Z. Lin, "Stabilization of switched systems via composite quadratic Lyapunov functions*," IEEE Transactions on Automatic Control*, Vol. 53, No. 11, pp. 2571-2585, 2008.
- T. Hu, A.R. Teel and Z. Lin, "Lyapunov characterization of forced oscillations," *Automatica*, Vol. 41, No. 10, pp. 1723-1735, 2005.
- T. Hu, B. Huang and Z. Lin, "Absolute stability with a generalized sector condition," *IEEE Transactions on Automatic Control*, Vol. 49, No. 4, pp. 535-548, 2004.
- T. Hu and Z. Lin, "Output regulation of linear systems with bounded continuous feedback," *IEEE Transactions on Automatic Control*, Vol. 49, pp. 1941-1953, 2004.

Invited Speeches

Professor Lin has delivered **over 150 invited and plenary lectures** at universities, conferences, and workshops worldwide. Recent lectures include:
- Oscillator Ising machines: Dynamic properties and application as associative memory, Department of Electrical and Computer Engineering, University of Texas at San Antonio, San Antonio, TX, March 28, 2025.
- Oscillator Ising machines: Dynamic properties and application as associative memory, Jerome J. Lohr College of Engineering Dean's Distinguished Seminar, South Dakota State University, Brookings, SD, September 19, 2025.
- A distributed accurate dynamic average consensus algorithm and its application in the state-of-charge balancing of a networked battery system, Department of Electrical and Computer Engineering, University of Alabama, Tuscaloosa, AL, November 20, 2024.
- Dealing with saturation constraints in the analysis and design of control systems, Department of Electrical Engineering, University of Texas at Arlington, Arlington, TX, May 13, 2024.
- Low gain feedback for linear systems: input Saturation vs. input delay, Control Seminar Series, University of Michigan, Ann Arbor, MI, April 12, 2024.
- On distributed accurate dynamic average consensus of time-varying signals and its application to networked battery systems, Department of Mechanical Engineering, National Chung Cheng University, Chiayi, Taiwan, March 11, 2024.
- On distributed accurate dynamic average consensus of time-varying signals and its application to networked battery systems, Department of Precision Instruments and Mechanical Engineering, Tsinghua University, Beijing, China, January 18, 2024.
- State-of-charge balancing for battery energy storage systems by distributed algorithms, Department of Electrical and Computer Engineering, University of Windsor, ON, Canada, November 4, 2022.
- State-of-charge balancing for battery energy storage systems by distributed algorithms, Center for Ultra-Wide-Area Resilient Electric Energy Transmission Networks (CURENT), University of Tennessee, Knoxville, TN, September 16, 2022.
- Co-design of linear low-and-high gain state feedback and high gain observer for semi-global stabilization of nonlinear systems, Plenary speech, the 5th International Conference on Mechatronics Systems and Control Engineering (ICMSCE 2022) and the 5th International Conference on Service Robotics Technologies (ICSRT 2022), Chengdu, China, March 11-13, 2022.

- Dealing with saturation constraints in the analysis and design of control systems, Distinguished Speaker, Department of Industrial and Systems Engineering, Texas A&M University, College Station, TX, September 10, 2021.
- Control of linear systems subject to actuator saturation: from model-based design to reinforcement learning control, Plenary speech, the 2021 IEEE 10th Data Driven Control and Learning Systems Conference (DDCLS'21), Suzhou, China, May 14-16, 2021.