Guosong Yang (杨国松)

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Education

University of Illinois at Urbana-Champaign — Urbana, IL
Ph.D. candidate in Electrical and Computer Engineering — 2013–present
Advisor: Daniel Liberzon
Tentative dissertation title: "Switched and hybrid systems with inputs: small-gain theorems and control with limited information"

University of Illinois at Urbana-Champaign — Urbana, IL
M.S. in Electrical and Computer Engineering — 2011–2013
Advisor: Daniel Liberzon
Thesis: "A Lyapunov-based small-gain theorem for interconnected switched systems"

Hong Kong University of Science and Technology — Kowloon, Hong Kong
B.Eng. in Electronic Engineering (Honors Research Option), Minor in Mathematics — 2007–2011
Advisor: Zexiang Li

Research interests

- Switched and hybrid systems
- Control with limited information
- Nonlinear systems and control theory

Publications

Journals:

- **Guosong Yang** and Daniel Liberzon, "Feedback stabilization of a switched linear system with an unknown disturbance under data-rate constraints," *IEEE Transactions on Automatic Control*, submitted for publication
- Andrii Mironchenko, **Guosong Yang**, and Daniel Liberzon, "Lyapunov small-gain theorems for networks of not necessarily ISS hybrid systems," *Automatica*, submitted for publication
- **Guosong Yang** and Daniel Liberzon, "A Lyapunov-based small-gain theorem for interconnected switched systems," *Systems & Control Letters*, vol. 78, pp. 47–54, 2015

Conferences:

- **Guosong Yang**, Daniel Liberzon, and Zhong-Ping Jiang, "Stabilization of interconnected switched control-affine systems via a Lyapunov-based small-gain approach," in *2017 American Control Conference*, 2017, to be published
- **Guosong Yang**, Daniel Liberzon, and Andrii Mironchenko, "Analysis of different Lyapunov function constructions for interconnected hybrid systems," in *55th IEEE Conference on Decision and Control*, 2016, pp. 465–470
- **Guosong Yang** and Daniel Liberzon, "Finite data-rate stabilization of a switched linear system with unknown disturbance," in *10th IFAC Symposium on Nonlinear Control Systems*, 2016, pp. 1085–1090

- **Guosong Yang** and Daniel Liberzon, "Stabilizing a switched linear system with disturbance by sampled-data quantized feedback," in *2015 American Control Conference*, 2015, pp. 2193–2198
- **Guosong Yang** and Daniel Liberzon, "Input-to-state stability for switched systems with unstable subsystems: a hybrid Lyapunov construction," in *53rd IEEE Conference on Decision and Control*, 2014, pp. 6240–6245
- Andrii Mironchenko, **Guosong Yang**, and Daniel Liberzon, "Lyapunov small-gain theorems for not necessarily ISS hybrid systems," in *21st International Symposium on Mathematical Theory of Networks and Systems*, 2014, pp. 1001–1008

Teaching experience

University of Illinois at Urbana-Champaign Urbana, IL

– Teaching assistant, ECE517 Nonlinear and Adaptive Control, Fall 2015, Fall 2016

– Teaching assistant, ECE528 Analysis of Nonlinear Systems, Spring 2015

Professional activities

- Reviewer for IFAC Automatica, since 2015
- Reviewer for System & Control Letters, since 2016
- Reviewer for Nonlinear Analysis: Hybrid Systems, since 2016

Honors and awards

- Best Poster Award, Coordinated Science Laboratory Student Conference, 2016
- HKUST University Scholarship, 2007–2011
- HKUST School of Engineering Scholarship, 2007–2011
- HKUST ECE Outstanding Freshmen Scholarship, 2007–2011
- HKUST The Joseph Lau Luen Hung Charitable Trust Scholarship, 2007–2011
- HKUST Dean's List Award, Fall 2007, Spring 2008, Fall 2008, Spring 2009, Fall 2009
- Gold medal for 8th Asian Physics Olympiad, 2007

Personal

- Citizenship: China
- Languages: Chinese (native), English (fluent)