

# GUOSONG YANG (杨国松)

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## POSITION

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<b>University of California, Santa Barbara</b>	Santa Barbara, CA
Postdoctoral Scholar, Department of Electrical and Computer Engineering	Aug. 2017–present
Advisor: <a href="#">João P. Hespanha</a>	

## EDUCATION

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<b>University of Illinois at Urbana-Champaign</b>	Urbana, IL
Ph.D. in Electrical and Computer Engineering	Aug. 2013–Aug. 2017
Advisor: <a href="#">Daniel Liberzon</a>	
Dissertation: “Switched and hybrid systems with inputs: small-gain theorems, control with limited information, and topological entropy”	

<b>University of Illinois at Urbana-Champaign</b>	Urbana, IL
M.S. in Electrical and Computer Engineering	Aug. 2011–Aug. 2013
Advisor: <a href="#">Daniel Liberzon</a>	
Thesis: “A Lyapunov-based small-gain theorem for interconnected switched systems”	

<b>Hong Kong University of Science and Technology</b>	Kowloon, Hong Kong
B.Eng. in Electronic Engineering (Honors Research Option)	Sep. 2007–May 2011
Minor in Mathematics	
Advisor: <a href="#">Zexiang Li</a>	

## RESEARCH INTERESTS

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

## PUBLICATIONS

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### Journals:

- Kuniyoshi Okano, Masashi Wakaiki, **Guosong Yang**, and João P. Hespanha, “Stabilization of networked control systems under clock offsets and quantization,” *IEEE Transactions on Automatic Control*, to be published
- **Guosong Yang** and Daniel Liberzon, “Feedback stabilization of switched linear systems with unknown disturbances under data-rate constraints,” *IEEE Transactions on Automatic Control*, to be published
- Andrii Mironchenko, **Guosong Yang**, and Daniel Liberzon, “Lyapunov small-gain theorems for networks of not necessarily ISS hybrid systems,” *Automatica*, to be published

- **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, pp. 5182–5187
- **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

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##### 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

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- Journal reviewer for [IFAC Automatica](#), [System & Control Letters](#), [Nonlinear Analysis: Hybrid Systems](#), and [IEEE Control Systems Letters](#)
- Conference reviewer for [MICNON 2015](#), [HSCC 2017](#), and [2017 ACC](#)

#### HONORS AND AWARDS

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- 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

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