

Da Xue

Contact Information

Department of Chemical Engineering, University of California, Davis, CA 95616

Phone: (530) 574-9542

E-mail: xdxue@ucdavis.edu

Education

Ph.D. candidate, Chemical Engineering, University of California, Davis

09/2013 - Present

• Advisor: Professor Nael H. El-Farra • GPA: 3.90/4.00

B.Eng., Automatic Control, Zhejiang University, China

09/2009 - 06/2013

• Advisor: Professor Jianguang Zhou • GPA: 3.88/4.00

Research Interests

Networked process control and monitoring, Fault-tolerant control, Large-scale systems, Sampled-data systems, Distributed parameter systems.

Journal Papers

1. Xue, D. and N. H. El-Farra, "Supervisory Event-Triggered Control of Networked Process Systems, " *AIChE J.*, submitted.
2. Xue, D. and N. H. El-Farra, "Fault-Tolerant Control of Distributed Processes with Networked Sensors and Actuators, " *Automatica*, submitted.

Refereed Conference Proceedings Papers

1. Xue D. and N. H. El-Farra, "An Optimization-Based Approach for Dynamic Actuator Scheduling in Networked Distributed Processes", in *Proceedings of the 56th IEEE Conference on Decision and Control*, Melbourne, Australia, 2017, submitted.
2. Xue D. and N. H. El-Farra, "Optimization-Based Networked Control of Process Systems Over Resource-Constrained Communication Networks", in *Proceedings of the 56th IEEE Conference on Decision and Control*, Melbourne, Australia, 2017, submitted.
3. Xue D. and N. H. El-Farra, "Forecast-Triggered Fault-Tolerant Model Predictive Control of Nonlinear Processes", in *Proceedings of the IFAC World Congress*, Toulouse, France, 2017, accepted.
4. Xue D. and N. H. El-Farra, "Resource-Aware Fault Accommodation Strategies for Distributed Processes with Sampled-Data Networked control Systems", in *Proceedings of the American Control Conference*, Seattle, WA, 2017, accepted.
5. Xue D. and N. H. El-Farra, "Analysis and Accommodation of Communication Failures in Event-Triggered Networked Distributed Control Systems", in *Proceedings of the American Control Conference*, Seattle, WA, 2017, accepted.
6. Xue D. and N. H. El-Farra, "Design and Analysis of Output Feedback-Based Event-Triggered Control Systems for Distributed Processes", *Proceedings of the 55th IEEE Conference on Decision and Control*, Las Vegas, 2016, pp. 4296-4301.

7. Xue D. and N. H. El-Farra, "Event-Triggered Fault-Tolerant Control of Sampled-Data Nonlinear Systems", in *Proceedings of the IFAC-PapersOnLine*, Monterey, CA, 2016, 49.18 (2016): 1036-1041.
8. Xue D. and N. H. El-Farra, "Supervisory Logic for Control of Networked Process Systems with Event-Based Communication", in *Proceedings of the American Control Conference*, Boston, MA, 2016, pp. 7135-7140.
9. Xue D. and N. H. El-Farra, "Actuator Fault-Tolerant Control of Networked Distributed Processes with Event-Triggered Sensor-Controller Communication", in *Proceedings of the American Control Conference*, Boston, MA, 2016, pp. 1661-1666.
10. Xue D. and N. H. El-Farra, "Networked Event-Triggered Control of Spatially Distributed Processes Using a Dual-Mode Communication Strategy", *Proceedings of the 54th IEEE Conference on Decision and Control*, Osaka, Japan, 2015, pp. 1899-1904.

Contributed Presentations with Published Abstracts

1. Xue D. and N. H. El-Farra, "Optimization-Based Event-Triggered Predictive Control of Process Systems with Control and Communication Constraints", *AIChE Annual Meeting*, San Francisco, CA, 2016, paper 42b.
2. Xue D. and N. H. El-Farra, "Supervisory Event-Based Control of Networked Process Systems with Limited State Measurements", *AIChE Annual Meeting*, San Francisco, CA, 2016, paper 309d.
3. Xue D. and N. H. El-Farra, "Sampled-Data Event-Triggered Control of Distributed Parameter Systems with Networked Sensors and Actuators", *AIChE Annual Meeting*, San Francisco, CA, 2016, paper 582f.
4. Xue D. and N. H. El-Farra, "Event-Triggered Fault-Tolerant Control of Networked Process Systems", *AIChE Annual Meeting*, Salt Lake City, UT, 2015, paper 308b.
5. Xue D. and N. H. El-Farra, "Supervisory Event-Triggered Control of Networked Process Systems", *AIChE Annual Meeting*, Atlanta, GA, 2014, paper 148d.

Professional Memberships

American Institute of Chemical Engineers

Honors and Awards

<i>Summer Graduate Student Researcher Award</i> , Graduate Studies, University of California, Davis	2016-2017
<i>Graduate Student Travel Award</i> , University of California, Davis	2016
<i>2 Best Presentation In Session Awards</i> , American Control Conference, Boston, MA	2016
9 awards/honors for academic excellence from Zhejiang University	2013-2016